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ABSTRACT

The program on Ethics and Values in Science and Technology (EVIST) at the National Science Foundation has two major goals. The first is to stimulate research on ethical aspects of contemporary issues involving scientific and technological research and development and on social values that influence and are influenced by the work of scientists and engineers. The second is to improve discussion, understanding, and policies and practices affecting and affected by science and technology. The 70 projects summarized in this report have contributed to these goals. Each summary includes: (1) project title; (2) name of principal investigator(s); (3) institution at which the work was based; (4) project reference codes; (5) completion date; (6) amount of funding; (7) summary; and (8) list of pertinent publications. Two indexes are found after the summaries. The first, an index of reference codes, is divided into five sections: health and safety; philosophy and ethics (including bioethics and environmental ethics); public policy; science, technology, and society; and "other." The second is an index of principal investigators. Programs included are for fiscal years 1976 to 1980. (JN)

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Results From EVIST-Supported Projects 1976 - 1980

Compiled by:

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Summer and Fall 1983

April 1984

SE044626

Note: Data for this report were taken from program records and therefore may differ from official NSF source documents.

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OVERVIEW

The program on Ethics and Values in Science and Technology at the National Science Foundation has two major goals:

- o to stimulate research on ethical aspects of contemporary issues involving scientific and technological research and development and on social values that influence and are influenced by the work of scientists and engineers, and

- o to improve discussion, understanding, and policies and practices affecting and affected by science and technology.

We hope that this report on some of the results of projects EVIST supported during its early years will contribute to our goals. Included here are 70 projects, granted funds during fiscal years 1976-1980, which both ended before mid-1983 and submitted final reports to us before December 1983.

We intend to update this report periodically and to provide special reports on particular areas of support, as appropriate. One such is currently available: "Ethical Issues in the Management of Occupational Hazards: A Report on Current Research" can be ordered from The Hastings Center, 360 Broadway, Hastings-on-Hudson, New York, NY 10706.

For more information about the types of projects EVIST supports, see the EVIST Program Announcement (NSF 83-62) and the awards lists for fiscal years 1982 and 1983. These are available from EVIST, NSF, Washington, D.C. 20550.

INTRODUCTION

The projects EVIST supports often focus on scientific and technological research and development activities as they affect and are affected by society. They try to clarify the ethical implications or value assumptions of those activities, and to contribute to the formulation of sound policy about them.

The projects summarized in this report have contributed to our goals. Taking the form of research inquiries, conferences or workshops, the projects involved scientists (including social scientists), engineers, philosophers, historians, policymakers, administrators and others, in the study of the ethical and value implications of science and technology. Often, the research projects were conducted by an interdisciplinary team. Likewise, many conferences brought together people from different disciplines and groups concerned about particular issues.

While the length of the projects varied from a year or less for preparation of some of the conferences to a few years for some of the longer research projects, the average grant period was about 18 months. Funding also varied in relation to the number of people involved and the scope of the project.

In supporting these projects, the National Science Foundation has developed a cooperative arrangement with the National Endowment for the Humanities, through its Humanities, Science and Technology program. There is a joint review process for proposals EVIST considers, and many awards are supported by both agencies. In the summaries, projects which received NEH support are so indicated. A few projects received support from sources other than NSF and NEH. These sources are also listed.

These summaries give a representative view of the types of projects EVIST supported during its first five years. Many were essentially activities to encourage the development of a fledgling area for interdisciplinary study and communication. Many could take only initial steps to identify an issue and begin to articulate its dimensions. Now, our understanding about fundamental ethical concerns and value conflicts that underlie these issues has increased, and so has the conceptual and methodological sophistication with which we approach them. We have begun to develop a literature and a shared language for discussion. Now we can bring what we have learned to the development of new research projects and to our discussions.

USING THIS REPORT

The report contains summaries of 70 projects supported during the fiscal years 1976-1980. The summaries are grouped by fiscal year of award. Within each fiscal year, project results are listed in order alphabetically, by last name of the principal investigator. Each summary provides a short description of the project, its objectives, methods, and results. Products, usually in the form of publications, are listed after the project description. Many of the reports that have not been published in journals or books are available from the National Technical Information Service (NTIS).

The summaries are organized as follows. At the top is the project title, followed by the name of the principal investigator(s), and the institution at which the work was based. To the right of the name and institution are found the project's reference codes, the completion date, and the amount of funding awarded.

Two indexes are found after the summaries. One is the reference code index; the other is the alphabetical index of principal investigators. The reference code index uses a list of 4-character codes which refer to specific issues or areas of study that relate to particular projects. The entire list of codes and their meanings can be found before the reference code index. These codes are similar to codes the EVIST program uses to identify and select reviewers for projects in the peer review process. The reference code index provides the name(s) of the investigator(s), the name of the project, and the year the award was made. Using this index, readers can identify the issues or areas of study of most interest to them, and find the salient investigators and project years. Readers who wish to see whether EVIST has supported certain investigators and what their projects were about can use the alphabetical index of principal investigators.

INDEXES

The Index of Reference Codes

- The index is divided into five sections:

    1. Health and Safety: codes begin with "H"
    2. Philosophy and Ethics: codes begin with "E"
    3. Public Policy: codes begin with "P"
    4. Science, Technology, and Society: codes begin with "S"
    5. Other: codes begin with "O"

- Determine code for desired specialty from list of reference codes.

- Go to the index of reference codes and locate that code.
    - within each of the five sections, codes are arranged in the same order as the short list of codes

- Find the desired project, noting its year and name of the investigator.

- Go to the summaries for that fiscal year.

- Use the investigator's name to locate his or her project.

The Index of Principal Investigators

- Look for name in alphabetical list of investigators.

- Note the fiscal year in which the award was made.

- Go to the summaries for that fiscal year.

- Use the investigator's name to locate his or her project.

- NOTE: In five projects having two investigators, the second investigator is listed in the index, but his or her name is not used to reference the project summary. In these cases, the name of the first investigator is given next to the name of the second.

EVIST AWARDS FISCAL YEAR 1976

"An In-Depth Case Study of Ethical Problems of Professional Engineers: The BART (Bay Area Rapid Transit) Engineers"

Robert M. Anderson

Purdue University
Purdue Research Foundation
West Lafayette, IN 47907

Reference Codes: HENV, EENG, EWHI, ECOR, STRN

Completion Date: August 31, 1980

Funding: $104,486

Project Summary

In March, 1972, three engineers were fired from the San Francisco Bay Area Rapid Transit (BART) District. Their dismissals initiated a controversy centered on the ethical responsibilities of individuals who believe that a threat to the public health and welfare may exist. The dismissals were also a key factor motivating the adoption of the IEEE code of ethics. This study researched the events surrounding these firings in order to present a scholarly, dispassionate chronicle. Its focus was on questions of moral and professional responsibilities of individual engineers or scientists in the employ of large organizations.

Interviews were conducted with 21 persons associated with the case, and over 830 historical documents were collected. Within the context of the BART controversy, the following questions were among those addressed: How does a professional employee conclude that he is faced with an ethical dilemma? What are the consequences of such dilemmas on the personal lives of those involved? How is the decision made to deal with a dilemma "outside" of the organization? What is the organization's view of how their professional employees should proceed when they feel that they are faced with an ethical dilemma? How do professional and technical societies define their responsibilities in such cases? What role can the legislative and judicial branches of government play in controversies of this sort?

From the research and interviews, the investigators prepared a chronology, a monograph manuscript and five case studies. The chronology has 849 entries for the time period from January 1947 to July 1977. The five case studies are intended for classroom use and are titled: (1) "Introducing Large Scale Technology," (2) "Contracting and Criticism," (3) "The Three BART Engineers," (4) "Professional Societies and Ethical Conflict," and (5) "Ethical Conflict: Courts and Codes." In addition, numerous oral presentations were made around the country.

Products

Anderson, R.M., R. Perrucci, D.E. Schendel, L.E. Trachtman. Divided Loyalties: A Case of Corporate Whistle-Blowing. West Lafayette: Purdue

University Series in Science, Technology and Human Values 4, 1980.

Otton, James, Robert Anderson, and Daniel Schendel. "The Bay Area Rapid Transit (BART) Incident." In Proceedings of the Second National Conference on Business Ethics. Washington: University Press of America, 1979.

Case studies submitted to the American Society for Engineering Education Case Library:

Anderson, R.M., R. Perrucci, D.E. Schendel, and L.E. Trachtman. "Introducing Large Scale Technology."

Anderson, R.M., R. Perrucci, D.E. Schendel, and L.E. Trachtman. "Contracting and Criticism."

Anderson, R.M., R. Perrucci, D.E. Schendel, and L.E. Trachtman. "The Three BART Engineers."

Anderson, R.M., R. Perrucci, D.E. Schendel, and L.E. Trachtman. "Professional Societies and Ethical Conflict."

Anderson, R.M., R. Perrucci, D.E. Schendel, and L.E. Trachtman. "Ethical Conflict: Courts and Codes."

"Energy, Environment and Ethics Seminar"

Carol Benson
George Washington University
Washington, D.C. 20052

Reference Codes: EENV, PNRG, PENV

Completion Date: June 30, 1976

Funding: $11,900

Project Summary

In response to the increased concerns over energy-related and environmental issues in the 1970s, a new scientific discipline emerged, consisting of engineers, scientists and other professionals who sought to find ways to increase energy production and optimize the condition of the human environment. This award provided partial support for a national conference in November 1975, organized by the National Association of Environmental Professionals. Participants, mainly Federal environmental administrators and national leaders in the environmental assessment field, discussed the ethical issues concerned with the discipline. Several of the major Federal agencies (ERDA, EPA, DOT, CEQ, Interior, Commerce, and CSC) supplied "in-kind" support for the conference by providing mailing lists and sending program announcements to their employees.

"Research Design Agenda on American Values and Models of Human Habitation"

William Blanpied
Mayra Buvinic, after 9/76
American Association for the Advancement of Science
1776 Massachusetts Avenue, N.W.
Washington, D.C. 20036

Reference Codes: EENV, ORUS

Completion Date: June 15, 1977

Funding: $98,5000 (Partial support provided by NEH)

Project Summary

Fourteen scholars from a wide range of disciplines met in Washington, D.C. for six weeks in the summer of 1976. Their task was to assemble a research agenda to suggest directions for interdisciplinary research on the relationships between the nature and problems of American habitation and value systems.

Much of the agenda was framed around the following questions: What forces are acting to promote justice or inequity in the allocation of resources--aesthetic and social as well as physical and economic--in American today? Who controls the major decisions affecting American habitat, and why? What is the impact of major institutions such as the media, government, and large corporations?

In considering the effects of social, political, and economic forces on current patterns of habitation, the participants recommended study of private automobile use, changing sex roles, and the "back to nature" movement, among others. Particular attention was given to the need for research on population mobility and the social and psychological impact of moving on the individual and the community. Participants also concluded that effective information dissemination networks should be developed to avoid duplication in research, and that those affected by a research project should be involved in its design and implementation. They stressed that research should not be limited to a single discipline in areas where an interdisciplinary approach would be more valuable, and recommended that a research project be conducted by an interdisciplinary team whenever possible.

Products

Buvinic, Myra, and Sylvia Fries, eds. American Values and Habitat: A Research Agenda. Washington, D.C.: American Association for the Advancement of Science, 1976.

Blanpied, William, and Wendy Weisman-Dermer. Proceedings of the AAAS Interdisciplinary Workshop on the Interrelationships Between Science and Technology, and Ethics and Values. Washington, D.C.: American Association for the Advancement of Science, 1975.

"Case Studies of the Impact of Natural Resources Technologies on the Values of Two Contrasting Socio-Cultural Communities"

Lynton K. Caldwell
Indiana University
Bloomington, IN 47405

Reference Codes: STAS, SENV

Completion Date: June 30, 1978

Funding: $70,972

Project Summary

The introduction of a technology into a community often leads to costly and prolonged political conflicts. In this project, two separate cases of such effects were studied: (1) the Reserve Mining controversy over the discharge of taconite tailings into Lake Superior in Minnesota, and (2) the Garrison diversion irrigation project, involving a massive transfer of Missouri River water in North Dakota. The study compared changes in how people in the respective communities evaluated the impact of the two projects.

To research the case studies, the investigators used documentary materials and interviews in the field whenever possible. Preliminary findings were referred back to respondents for possible errors or omissions.

In both communities, newly introduced technologies based on scientific methods were first perceived as almost wholly beneficial. Later, influenced by new and different scientific information and by experience, citizens' opinions changed, resulting in value conflicts with project sponsors and supporters. In their reports, the investigators used the case studies to determine why and how value conflicts involving technology occur, and suggested approaches that might avoid costly controversies over the significance and application of scientific knowledge.

Products

Bartlett, Robert V. The Reserve Mining Controversy: Science, Technology and Environmental Quality, with introduction and concluding observations by Lynton K. Caldwell. Bloomington: Indiana University Press, 1980.

Bartlett, Robert V., and Lynton K. Caldwell. The Reserve Mining Controversy: A Case Study of Science, Technology, and Values. Bloomington: Indiana University, 1979.

Doemel, Nancy J., and Lynton K. Caldwell. The Garrison Diversion Unit: Science, Technology, Politics, and Values. Bloomington: Indiana University, 1979.

"Symposium on Ethical Issues Related to the Acquisition and Utilization of Human Tissue for In Vitro Research"

Paul J. Chapple
Tissue Culture Association, Inc.
Lake Placid, NY 12946

Reference Codes: EBIO, ERES

Completion Date: November 30, 1976

Funding: $24,815

Project Summary

Thirty-five leading members of the scientific, legal, and philosophical communities met for a two-day workshop in January 1976 at the W. Alton Jones Cell Science Center at Lake Placid, New York. The meeting was devoted to analyzing the tissue culture scientist's responsibilities in the acquisition and utilization of human tissue for in vitro research. The participants examined legal-bioethical issues and problems which were pertinent to the profession. The desire of tissue culturists in particular to participate in the formulation and resolution of bioethical issues was thought at the time to be quite representative of the growing willingness of scientists in general to discuss bioethical issues which influence the direction and flow of scientific investigation. Significantly, the symposium reflected the increased willingness on the part of tissue culturists to accept accountability for the extra-scientific implications of their scientific research.

Products

Proceedings were published as a special issue of In Vitro no. 10 (October 1977).

"Ethical and Human Values Assessment Procedure: A Pilot Project"

Lawson Crowe
Department of Philosophy
University of Colorado
Boulder, CO 80309

Reference Codes: ERES, ESNT

Completion Date: September 30, 1977

Funding: $49,935

Project Summary

In this project, five two-person scientist/humanist teams collaborated to produce a pilot Human Values Assessment Procedure (HVAP), designed to assist scientists in evaluating the ethical and human value implications of specific scientific research proposals. The purpose of the HVAP was to make a contribution to the system of proposal evaluation by improving the ability of those who manage and participate in peer reviews to identify potential social benefits, costs, and hazards of the proposed research. The HVAP was developed to be readily adaptable to the

assessment of various types of research and to the special requirements of the various granting agencies.

The HVAP would incorporate a "human values check list" into the review process and couple this evaluation with an assessment of all potential costs of doing the proposed research. This would produce a three-part evaluation process in which scientific values, human values, and potential costs would be weighed together. Evaluators would estimate the consequences of a particular piece of research with respect to justice (distributive or compensatory), health, education, institutional improvement, economic change, environmental circumstances, personal development, and public understanding of science.

In addition to the check list recommendations, each scientist/humanist team produced co-authored papers dealing with the ethical and human value implications of specific ongoing research projects at the University of Colorado. These papers were the product of a year-long faculty seminar which met regularly to discuss the issues raised by these projects.

"A Guide to Historical, Philosophical, Science Policy and Sociological Studies of Science, Technology, and Medicine: Their Relevance to Ethical and Values Implications of Science and Technology"

Paul T. Durbin
University of Delaware
Newark, DE 19711

Reference Codes: ESNT, PHST, SSMD, PSCI

Completion Date: June 30, 1978

Funding: $115,170 (80% support provided by NEH)

Project Summary

This project had a dual aim: (1) to produce an interdisciplinary guide to nine fields--history of science, history of technology, and history of medicine; philosophy of science, of technology, of medicine; sociology of science and technology, sociology of medicine, and science policy studies; and (2) to demonstrate the relevance of these fields to the solution of ethical and value questions associated with science, technology, and medicine.

Leading scholars were commissioned to write state-of-the-field articles and bibliographies for the guide. While the guide was directed primarily toward the professional scholar or graduate student in a similar or closely-related field, it was also intended to appeal to professionals in adjacent fields, and to a broad, general audience. It was hoped that the guide would serve

to form the fragments of the disparate fields into an interdisciplinary whole. A supervisory board worked closely with the authors throughout the project.

Products

Durbin, Paul, ed. A Guide to the Culture of Science, Technology, and Medicine. New York: The Free Press, 1980.

"Toxic Substances and Trade Secrecy"

Albert J. Fritsch
Technical Information Project
1346 Connecticut Avenue, #217
Washington, D.C. 20036

Reference Codes: STOX, STAS

Completion Date: May 31, 1977

Funding: $49,875

Project Summary

The conflict between corporate trade secrecy and the public's right to know has posed an ethically difficult and environmentally dangerous problem in the area of toxic substances. In recent years, the use of hazardous chemicals has generated increasing concern among consumers, laborers, environmentalists and public interest groups, as well as corporate researchers and executives. This award supported a national workshop for leaders in the field of toxic substances and trade secrecy which had the goal of developing guidelines for some solutions to the problem.

The four and one-half day conference was held in February 1977 at the Coolfront Conference Center in Berkeley Springs, West Virginia. Participants attempted to establish general ground rules and guidelines for the rights and responsibilities of the four major groups affected by toxic substances: citizens, chemical producers, scientists and engineers, and government agencies. The conference focused on information sharing, and developed in an ethical context the framework in which the toxic substances issues rested.

Products

Fritsch, Albert. Toxic Substances and Trade Secrecy. Washington: Technical Information Project, 1977.

"Studies of the Ethical Implications of Procedures Used in the Care, Education, and Treatment of the Mentally Retarded"

Willard Gaylin
Institute of Society, Ethics
and the Life Sciences
360 Broadway
Hastings-on-Hudson, NY 10706

Reference Codes: EMED, EOTH, SIND

Completion Date: February 28, 1978

Funding: $99,700

Project Summary

A one-year study of the ethical, social, and legal issues in the care and treatment of the mildly mentally retarded was performed by the Behavioral Control Research Group of the Hastings Center. The main objectives of the project were to (1) examine questions of competence and consent concerning the mildly mentally retarded and (2) determine the practical implications in terms of care and treatment that evolve from differing definitions and models applied to mental retardation.

An interdisciplinary group of experts in mental retardation met in periodic workshop sessions with a core group from the Behavioral Control Research Group. Between these sessions, the BCRG Hastings staff conducted literature reviews and analyses, and prepared papers for presentation at the workshops. The first half of the project addressed the more general issues of defining the concept of mild mental retardation and establishing the capabilities, limitations, and appropriate interventions for that population. The second half of the project turned to a case study of the issue of sterilization of the retarded. Here, the research group applied what it had learned during the first half of the year to the particular instance of the competence of the mildly mentally retarded to raise children and to grant consent for sterilization.

The major outcome of the project was a monograph which synthesized the year-long work of the whole research group. Additional products of the project took the form of published papers, public lectures, and meetings with scientific organizations and policy makers.

Products

Gaylin, Willard, and Ruth Macklin. "Behavior Control Research Project: 1976-78: Ethical Issues in the Care and Treatment of the Mildly Mentally Retarded." Institute of Society, Ethics and the Life Sciences, 1979. Available through NTIS.

Gaylin, Willard, Travis Thompson, Robert Neville, and Michael Bayles. "Sterilization of the Retarded: In Whose Interest?" Hastings Center Report 8, no. 3 (June 1978).

Macklin, Ruth and Willard Gaylin, eds. Mental Retardation and Sterilization: A Problem of Competency and Paternalism. New York: Plenum Press, 1981.

"Institute on Philosophical Ethics for Science and Engineering Faculty"

Samuel Gorovitz
Council for Philosophical Studies
University of Maryland
College Park, MD 20742

Reference Codes: ESNT

Completion Date: June 30, 1977

Funding: $33,745 (Partial support provided by NEH)

Project Summary

At the 1976 Summer Institute on Philosophical Ethics for Science and Technology held at Mt. Vernon College, Washington, D.C., 33 scientists and engineers met for four weeks with selected philosophers and ethicists. The background of the participants were distributed equally among the physical sciences, the biological sciences, and engineering. An average of five hours of class time each day was supplemented with discussion groups, evening seminars, and other activities. The sessions focused on contemporary moral theory and included consideration of such issues as the justifiability of moral judgments, the moral relevance of cultural relativism, and the comparison between ethical judgments and scientific judgments. Examples were drawn from issues in science and technology throughout.

"Conference on Ethical Issues in Research on Reproductive Biology"

Robert C. Kolodny
Reproductive Biology
Research Foundation
4910 Forest Park Boulevard
St. Louis, MO 63108

Reference Codes: EMED, EINF, SSMD, EBIO

Completion Date: June 30, 1976

Funding: $10,000 (Partial support in addition provided by NIMH)

Project Summary

A conference on Ethical Issues in Research on Reproductive Biology was held in St. Louis in January 1976 under the auspices of the Reproductive Biology Research Foundation. The purpose of the two-day conference was to identify and discuss fundamental ethical issues concerning therapeutic and investigative approaches to human sexuality. Conference participants came from the disciplines of psychiatry, psychology, theology, philosophy, sociology, law, nursing, obstetrics and gynecology, internal medicine, history, anthropology, and social work, and explored the ethical issues from both an historical perspective and a position of contemporary relevance.

The conference was made up of plenary sessions in which papers were presented and followed first by formal discussion, then by an open group-discussion period. Each session was concluded with comments from the original speaker. Topics included the ethical

requirements for sex research in humans (informed consent and confidentiality), attitudes in research and treatment of various forms of human sexual behavior, ethical dilemmas in various psychotherapeutic approaches to sex therapy, the training of sex therapists, and theological perspectives on the ethics of scientific investigation and treatment of human sexuality. A monograph was drawn from the conference proceedings.

Products

Masters, William H., Virginia E. Johnson, and Robert C. Kolodny. Ethical Issues in Sex Therapy and Research. Boston: Little, Brown and Company, 1977.

"Community Responsibility: The New Zealand Accident Compensation Act as a Value Response to Technological Development"

Jane C. Kronick
Bryn Mawr College
Bryn Mawr, PA 19010

Reference Codes: STAS, HENV, PSTL, PSCI

Completion Date: October 31, 1977

Funding: $102,163 (Partial support provided by NEH)

Project Summary

This study addressed the issue of how to define and respond to accident victims. New Zealand's Accident Compensation Act of 1972 redefined accidents as an inevitable consequence of technological development requiring the response of the community as a whole. This study examined the New Zealand experience to determine how the innovation in values occurred and was translated into legislation and an operating program. The project investigators completed economic analysis of input-output tables and national expenditures, demographic analysis of accident statistics, content analysis of public submissions, political analysis of legislative process, legal analysis of the Act and evaluation of its implementation.

The public submissions were found to have raised serious value questions including the extent of government responsibility, the basic rights of citizens, fairness and justice and the proper role for private enterprise. These were extended in debate to questions of tort law versus community programs, individual rights relative to public responsibility, horizontal versus vertical income redistribution in the political process, and the constraints on political action. Crucial to the redefinition of accidents were public interest in government protection of existing levels of living, failure of the private market to enter in its calculus a range of social costs, transfer of concepts of equity from tort law to social programs, and legislative politics

of electoral uncertainty. New principles of community responsibility, income-related benefits and elimination of the right to sue for personal injury emerged out of existing institutions and values.

Products

Kronick, Jane. "The New Zealand Health System: A Health System in Distress." Paper presented at the Cross-National Health Systems Conference, Dartmouth Medical School, Hanover, New Hampshire, June 10, 1977.

Kronick, Jane, Miriam Vosburgh, and William Vosburgh. "Changing Principles for Disability in New Zealand." Paper presented at the IX World Congress of Sociology, Uppsala, Sweden, August 1978.

Kronick, Jane, Miriam Vosburgh, and William Vosburgh. "A Study of Value Crystallization in Response to Technological Change: The New Zealand Accident Compensation Act." In Retrospective Technology Assessment 1976, edited by Joel Tarr. San Francisco: San Francisco Press, 1977.

"Value Issues in Long Term Global Development Projections"

Ervin Laszlo
State University of New York, Geneseo
Geneseo, NY 14454

Reference Codes: EMOD, PDEV, SPOP

Completion Date: August 31, 1976

Funding: $143,794

Project Summary

The objective of this project was to identify problems and examine alternative solutions concerning values issues related to quantitative projections of global trends in the areas of food supply and population. Utilizing knowledge of values and processes of value change, studies of conditions and ethical factors in ten regions outside North America were performed by scholars living in and native to those regions. This project, using a synoptic and analytical approach, rather than an empirical one, was done as the third of a series of projects endorsed by the Club of Rome, and was initiated by The Limits to Growth.

The final report, in the form of a monograph, addresses the different cultural attitudes and value theories that characterize individuals, groups, and nations in what have become the "first, second, and third worlds." It formulates the goals, ideologies, and religions of the different regions to determine the extent to which common objectives exist which might become the bases of solidarity between peoples. In addition, it seeks to identify the gaps between the focus on short-term national

concerns and long-term global considerations, while also distinguishing between the goals of different elements of a single society such as governments, business corporations, religious groups, intellectuals, and the broad masses of people.

Products

Laszlo, Ervin, et. al. Goals for Mankind: A Report to the Club of Rome on the New Horizons of Global Community. New York: E.P. Dutton, 1977.

"Resource Directory to Courses and Programs in the Field of Ethics and Values in Science and Technology"

Arthur Livermore
American Association for the Advancement of Science
1776 Massachusetts Avenue, N.W.
Washington, D.C. 20036

Reference Codes: ESNT, ESEE

Completion Date: March 31, 1978

Funding: $78,814

Project Summary

The goal of this project was to produce an indexed and up-to-date Resource Directory which would outline current academic efforts in the area of ethics and values in science and technology. Major topics, issues, concepts, and problems in the field provided the organizing framework. The scope of included efforts ranges from enduring issues and problems--science, technology, freedom and the nature of man--to more current societal dilemmas--genetic engineering and environmental manipulation. Over 500 institutions of higher education nationwide are represented in the directory.

To generate the directory a questionnaire was disseminated to an audience including chairpersons of philosophy, biology and sociology departments; deans of schools of engineering; and presidents of two-year colleges. The questionnaire was designed to elicit updated and new course and program descriptions, teaching and resource materials in use and desired, and the names of faculty involved in the area of ethics and values in science and technology. To provide a comparative basis and incentive for answering the questionnaire, it was accompanied by the preliminary Listing of Courses and Programs in the Field of Ethical and Human Value Implications of Science and Technology, which was developed under a fiscal year 1975 Program grant.

Products

EVIST Resource Directory: A Directory of Programs in the Field of Ethics and Values in Science and Technology. Washington, D.C.: American Association for the Advancement of Science, Office of Science Education, 1978.

"International Symposium on Critical Value Issues in Choosing Appropriate Technologies in Developed and Developing Countries"

Franklin A. Long
American Academy of Arts and Sciences
165 Allandale Street
Boston, MA 02130

Reference Codes: SAPT, PDEV

Completion Date: February 29, 1979

Funding: $63,769

Project Summary

In recent years, the long-held view that complex, centralized technology insured modernization for developing countries and continued prosperity for advanced countries has been challenged. A new emphasis focuses on an alternative, small-scale, decentralized technology which might be more compatible with such goals as preserving the environment, protecting traditional cultural values, and promoting a more equitable distribution of wealth. Many of these goals are in conflict with one another.

Thirty-five scholars, scientists, and government officials met in June 1978 at a symposium in Racine, Wisconsin organized by the American Academy of Arts and Sciences and the U.S. Pugwash Committee. The purpose of the meeting was to consider the extent to which social and economic goals can be achieved through the conscious choice of different forms of technology.

Participants at the symposium considered such questions as: How does the desire to realize social goals influence choices among technological options? Is the political system or the marketplace the most effective mechanism for choice? Can "appropriate technology" serve as a guide to technological choice in both developed and developing countries, or is the appropriate technology movement out of touch with what those in advanced countries will accept and with the real needs and wants of developing nations?

Products

Long, Franklin, and Alexandra Oleson, eds. Appropriate Technology and Social Values: A Critical Appraisal. Cambridge, MA: Ballinger Publishing Company, 1980.

"An Examination of the Ethical Problems of Scientists Participating in the Preparation of Environmental Impact Statements"

Gordon Matzke
Oklahoma State University
Stillwater, OK 74074

Reference Codes: EENV, PENV, ERES

Completion Date: October 30, 1977

Funding: $72,722

Project Summary

Since the passage of the National Environmental Policy Act in January 1970, Federal agencies have relied on scientists to produce environmental impact statements on projects which would significantly affect the quality of the environment. This study explored the ethical dimensions of the preparation of such statements, and focused particularly on university scientists' participation and its value implications for society.

Three case studies were examined: the U.S. Army Corps of Engineers Arcadia Lake Project in Oklahoma, the Oklahoma Gas & Electric Sooner Power Plant Project, and the Bureau of Land Management Project on Potash Leasing in southeastern New Mexico. The investigators gathered data from environmental documents and through interviews with university scientists who worked on the case study projects. They attempted to determine the value orientations of the scientists, and relate the research findings to broader issues of science values.

Environmental documents examined in the study revealed that their preparation was often several steps removed from scientists who had originated the basis research data. Primary value seemed to be placed on meeting the contractual obligations fulfilled by one's report, as opposed to the larger societal obligation that would be met by a full-disclosure environmental document. In addition, documents tended to make judgments concerning desirability of predicted outcomes, which presumed a hierarchy of values and thus were not themselves predictions of impact. Furthermore, interviews indicated that most scientists involved were not alert to the problem of value judgments in their work, although they generally claimed to uphold traditional scientific values and professed a certain awareness that their work as scientists had moral ramifications.

Products

Matzke, Gordon, et al. An Examination of the Moral Dilemmas of University Scientists Participating in the Preparation of Environmental Impact Statements. Oklahoma State University, 1977. Available through NTIS.

"Task Force on the Role of Psychology in the Criminal Justice System"

John Monahan
American Psychological Association
1200 Seventeenth Street, N.W.
Washington, D.C. 20036

Reference Codes: SREH, ESOC

Completion Date: December 31, 1977

Funding: $29,200

Project Summary

The increased involvement of psychologists in the U.S. criminal justice system has raised new and urgent ethical and value questions for the discipline of psychology. In this study, the American Psychological Association's Task Force on the Role of Psychologists in the Criminal Justice System examined and clarified the ethical dilemmas faced by psychologists working with police, court, correctional, and juvenile justice agencies. Four meetings were held between February 1977 and January 1978 at which the twelve member Task Force, invited psychologists and others working with criminal justice agencies considered prepared background papers. Task Force members also conducted a survey of 349 psychologists for whom the criminal justice system was their primary employment setting.

In its final report, the Task Force makes ten recommendations regarding the ethical practice of psychology in areas related to the criminal justice system. Both ethical issues that the system creates for psychologists and those that psychologists create for the criminal justice system are addressed. Under the former rubric, questions of the psychologist's loyalty (e.g., confidentiality) and questions of the psychologist's competence (e.g., the effectiveness of services) are the most prominant. One of the most controversial issues was found to be the use of psychologists as decision makers in the confinement and release of individual offenders.

Products

Bard, Morton, and Joseph Zacker. "How Police Handle Explosive Squabbles." Psychology Today 10 (1976): 71-74, 113.

Monahan, John. "Prisons: A Retreat From Rehabilitation." The Los Angeles Times (June 3, 1977): 5.

Monahan, John. "Prisons: A Wary Verdict on Rehabilitation." The Washington Post (April 30, 1977): A13.

Monahan, John, and Linda Costa Monahan. "Prediction Research and the Role of Psychologists in Correctional Institutions." San Diego Law Review 14, no. 5 (1977): 1028-1038.

Monahan, John, et al. "Report of the Task Force on the Role of Psychology in the Criminal Justice System." March 1978. Available through NTIS.

"A Critical Analysis of Value Issues Associated with the Role of Scientific Experts in Decision-Making Processes"

Dorothy Nelkin
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Ithaca, NY 14853

Reference Codes: SPUB, PSCI

Completion Date: July 1, 1979

Funding: $84,480 (Partial support provided by NEH)

Project Summary

Citizen participation in public decisions involving science and technology reflects basic democratic values, and often conflicts with the increased role of technical experts in the policy process. In the controversy between science and the public, the most pervasive questions have been: Who should control? If there is a conflict between scientific interests and public concerns, does one rely on professionals to assess the impact of their research or on those who may be affected? This project examined situations where the role of technical expertise has come into conflict with citizen participation in policy decisions.

Several case studies and problem areas were explored, focusing on the relationship between participation and expertise, and on the changing institutional relationships that have developed out of the concern with the problem of democratic choice. This included studies of efforts to resolve conflicts and to structure ways to increase citizen participation, to distribute expertise, and to improve the technical capacity of representative institutions.

The investigators found that the most salient aspect of the changing relationship between science and the public has been the public's challenging of authority and expertise in policy decision matters. In their analysis of efforts to resolve conflict, the researchers concluded that greater citizen participation in itself does not resolve public concerns about expertise unless it is structured in such a way as to avoid cooptation and to effect a better distribution of expertise. This distribution was seen as a major challenge in advanced industrial societies.

Products

Milch, Jerome. "The Politics of Technical Advice." Administrative Science Quarterly 3 (September 1977): 526-536.

Milch, Jerome. "Technical Advice and the Democratic Process." Paper presented to the 1979 Annual Meeting of the American Association for the Advancement of Science, Washington, DC, February 1978.

Milch, Jerome. "The Toronto Airport Controversy." In People vs. Experts: Political Controversies in Science and Technology, edited by Dorothy Nelkin. Beverly Hills: Sage Publications, 1979.

Nelkin, Dorothy. "Changing Dimensions of the Scientific Movement: Scientists in an Adversary Culture." Science, Technology, and Human Values (June 1978).

------. "Channels of Public Involvement in Natural Resources Planning." In Concepts of Public Involvement in the Natural Resources Area. Edited by A. Rosenthal. U.S. Fish and Wildlife Service, Policy Studies Service, 1978.

------. "Congress and the Control of Scientific Research." Proceedings of the Franklin Conference. Franklin Institute Press, Philadelphia: 1978.

------. "In Search of Definition: The Society for the Social Studies of Science." 4S Newsletter (January 1977).

------. "Limits to Scientific Inquiry." Interdisciplinary Science Reviews (1978).

------. "Participation and Expertise in Nuclear Decisions." Environmental Impact Review (Massachusetts Institute of Technology) (1979).

------. "Public Participation in Environmental Decisions." In The Resources Debate, edited by David Sills, 1979.

------. "Public Participation in Technological Decision-Making." In Science, Society and Education, edited by E. Boeker and M. Gibbons. Amsterdam: Vu Boekhandel, 1978.

------. Public testimony on participation in hearings on Recombinant DNA, before the Sub-committee on Science, Research and Technology of the Committee on Science and Technology, U.S. Congress, House of Representatives, May 4, 1977.

------. "Science as a Source of Political Conflict." Nobel Symposium 44, Ethics for Science Policy. Pergamon Press, 1979.

------. "Science and Technology in the Pits." In Politics, Science and Laetrile, edited by Jerry Markle. Westview Press, 1979.

------. "Science, Technology and the Public." UNESCO Document for Ministerial Conference on Science and Technology Policy, Spring 1978.

------. Statement in hearings before the U.S. Senate Subcommittee on Science, Technology, and Space of the Committee on Commerce, Science, and Transportation on Regulation of Recombinant DNA Research. November 2-10, 1977, pp. 190-195.

------. "Thoughts on the Proposed Science Court." Science, Technology and Human Values (January/February, 1977).

------. "Threats and Promises: Negotiating the Control of Research." Daedalus (March 1978).

------. "Trends in Science Policy: The Search for Controls." Policy

Studies Journal (January 1976-77). Expanded version in Science and Technology Policy: Developments and Perspectives, edited by Joseph Haberer. D.C. Heath, Lexington Books, 1977.

------, and Susan Fallows. "The Evolution of the Nuclear Debate: The Role of Public Participation." Annual Review of Energy 3 (1978).

------, and Michael Pollack. "The Politics of Participation and the Nuclear Debate: A Comparative Study." Public Policy (Summer 1977).

------, and Arie Rip. "Distributing Expertise: A Dutch Experiment in Public Interest Science." Bulletin of the Atomic Scientist (April 1979).

"Ethical Conflicts in Computer Science and Technology"

Donn B. Parker
Stanford Research Institute
333 Ravenswood Avenue
Menlo Park, CA 94025

Reference Codes: ECMP

Completion Date: July 31, 1978

Funding: $65,484

Project Summary

This project studied the ethical issues which arise in applications of computer technology. Thirty-five computer scientists, technologists and managers, ethicists, psychologists and lawyers met for three days at the Stanford Research Institute in Menlo Park, where they sought to identify, consider, and draw conclusions about ethical practices unique to computer science and technology, and to a lesser extent, the associated issues of enforcement and sanctions. Participants discussed and analyzed over 100 short scenarios describing ethical problems of people working in the computer field. A monograph and accompanying workbook for classroom use were published.

Products

Parker, Donn B. Ethical Conflicts in Computer Science and Technology. Arlington, VA: American Federation of Information Processing Societies (AFIPS) Press, 1981.

"Program on Science, Technology and Human Values"

Vivien B. Shelanski
Harvard University
Program on Public
Conceptions of Science
Cambridge, MA 20138

Reference Codes: ESNT

Completion Date: July 31, 1977

Funding: $54,304 (Partial support provided by NEH)

Project Summary

In the mid-1970s, evidence of the mounting concern with the social and ethical implications of science and technology was reflected in the growth of scholarly research on these issues, in the development of courses/curricula in the science/values area, and in the interest of policy makers, international organizations, and professional societies. Often, persons concerned with these issues were unaware of others with similar interests and of already existing programs and scholarship. When this project began in 1976, the Newsletter of the Program on Science, Technology, and Human Values already had been acting for over 3 years to inform individuals of current scholarship and resources in the field. Its quarterly issues contained science/values bibliographies, reviews, and research, conference, and fellowship notifications.

The purpose of this award was to develop and enlarge the newsletter series and the associated communications network and reference service and to begin putting the project on a self-sustaining operational base. Four issues were produced under the award, with topics ranging from the conduct of individual scientists, engineers, and their professional institutions, to issues arising from the more general interactions of science, technology, and society. A board of editorial advisors was established, with members providing advice about contents and coverage and serving as referees for manuscripts. A subscription fee was initiated, and after 9 months, the Newsletter was being received by almost 1,000 subscribers in the U.S. and abroad, including government agencies and institutional libraries.

Products

Cohen, Morris L., Jan Stepan, and Naomi Ronen, compilers. Law and Science: A Selected Bibliography. Cambridge: Harvard University, 1978.

Shelanski, Vivien, ed. Newsletter on Science, Technology and Human Values. nos. 17-20. (1976-77).

"The Social Impact of the Recombinant DNA Controversy: Documentation of the Responses of the Scientific Community, Government and the Public"

Charles Weiner
Massachusetts Institute of Technology
Program in Science, Technology and Society
Cambridge, MA 02139

Reference Codes: EDNA, PSCI, EBIO

Completion Date: January 31, 1979

Funding: $156,089 (Partial support provided by NEH)

Project Summary

In two separate awards over a four year period, the investigators documented the evolving response of the scientific community and the public to implications of recombinant DNA research by monitoring events as they unfolded, conducting interviews, and collecting, cataloging and depositing archival materials for use by researchers.

The first part of the project focused on participants at the Asilomar Conference in February 1975, where scientists met to develop guidelines to serve as a self-imposed limitation on their basic research. Gradually, the scope of the project was extended to include a larger body of scientists, environmentalists, press, and members of the NIH Recombinant DNA Advisory Committee. Monitoring and documentation of the meetings of the Cambridge, Massachusetts City Council and citizens' review board began in 1976.

When the second stage of the project commenced in mid-1977, the recombinant DNA issue was entering a period characterized by greater government and public involvement, and the study focused on developments in areas of public activities as well as continuing to conduct taped interviews with key participants. The meetings of the NIH Recombinant DNA Advisory Committee continued to be monitored, and the progression toward the Revised Guidelines, issued in December 1978, was fully documented. Congressional, State, and local hearings and proposed legislation were also followed.

The staff of the project produced a 30 minute videotape of the June 1976 Cambridge City Council Hearing which included excerpts from the full archival videotapes. By the end of the project a total of 2,500 documents and 126 oral history interviews had been collected, catalogued and deposited at the MIT Archives, where a detailed finding aid is available for users of the collection. The project investigators reported that with the dissemination of information about the collection, there has been a notable increase in the use of sources deposited at the MIT Archives and in the number of books, articles, dissertations and special studies utilizing the archival material.

Products

Derman, Janis. "History as She is Made." New Scientist (January 10, 1980): 86-88.

Goodell, Rae S. "Public Involvement in the DNA Controversy: The Case of Cambridge, Massachusetts." Science, Technology and Human Values (Spring 1979): 36-43.

Goodell, Rae S. "Recombinant DNA: Literature Guide, Review of Recent Books on the DNA Controversy." Science, Technology and Human Values (January 1978): 25-29.

Seidman, Aaron. "Legislative Report: The U.S. House of Representatives and Recombinant DNA." Science, Technology and Human Values (April 1978): 23-24.

Seidman, Aaron. "Recombinant DNA History Project." Trends in Biological Sciences (September 1978): N202.

Seidman, Aaron. "The U.S. Senate and Recombinant DNA Research." Science, Technology and Human Values (January 1978): 30-32.

Weiner, Charles. "Historical Perspectives on the Recombinant DNA Controversy." In Recombinant DNA and Genetic Experimentation, edited by Joan Morgan and W.J. Whelan. Pergamon Press, 1979.

Weiner, Charles. "The Recombinant DNA Controversy: Archival and Oral History Resources." Science, Technology and Human Values. (Winter 1979): 17-19.

"Effects of Cultural Values Upon Social Science Research About Women as Workers, 1870-1970"

Dorothy C. Wertz
Research for Social Change
49 Betts Road
Belmont, MA 02178

Reference Codes: ERES, POTH, ESOC

Completion Date: February 28, 1978

Funding: $21,260

Project Summary

This project studied the interrelationships between social science and popular values about working women prevalent during successive periods between 1870 and 1970. During this time, ideas about women's proper roles in and outside the home, women's morals, and women's physical and psychological capabilities underwent considerable changes, not without conflict. Until approximately 1965, a married woman's working outside the home was usually

considered a form of deviant behavior, explaining in part why researchers considered women's work as a peculiar social problem to be investigated separately from work in general.

Major Federal, State, and private-supported research reports were analyzed and compared with the values reflected in popular literature of the time. Reports inclued Federal and State labor bureau annual reports, State health bureau reports, factory investigating commission reports, studies conducted by the Children's Bureau (infant mortality) and the Women's Bureau, Sanitary Commission reports (about the relation between work and prostitution), and studies of specific industries conducted by the Russell Sage Foundation and other philanthropic organizations.

The reports were found to exhibit the values which prevailed at the times they were written, starting with Victorian ideas about women's distinctive physical and mental characteristics and the need to protect their sexual purity. Infant mortality among the children of working mothers was a major concern between 1900 and 1920; subsequently, after 1935, the focus shifted to family mental health. The belief that women's primary role should be motherhood continued to dominate research until the middle 1960s; after that, more research reflected the value of sexual equality in the workplace.

Products

Wertz, Dorothy C. "Social Science Attitudes Toward Women Workers, 1870-1970." International Journal of Women's Studies 5, no. 2 (March/April 1982): 161-171.

"Moral Dilemmas in the Application of Biological Research"

Mary B. Williams
University of Delaware
Newark, DE 19711

Reference Codes: EENV, EDNA

Completion Date: February 28, 1978

Funding: $128,296

Project Summary

The objective of this research was to study the relationship between ethical concerns of biologists and investigations by philosophers into the nature of ethical commitments. Ethical principles and controversies arising in the areas of recombinant DNA and the environment were examined by a research team whose work focused on obligations to future generations, a concern which was found to be central to many biologists' positions, yet which often lacked serious analysis by philosophers.

The interdisciplinary team of biologists and philosophers used two approaches to study this concern: (1) a traditional

philosophical approach which analyzed actions affecting future generations and discussed new substantive objections to utilitarian principles, and (2) an analysis using biological theory which transformed the problem of estimating all future consequences of an action on renewable resources into a problem of discovering all its contemporary consequences. This transformation allowed the investigators to show that utilitarianism provided an ethical foundation for the position that each generation should consume no more of renewable resources than their maximum sustainable yield.

Products

Scott, Robert B. "Utilitarianism and Obligations to Future Generations." In Obligations to Future Generations, edited by R.I. Sikora, B. Barry, and D. Parfit. Philosophical Monographs, 1978.

Williams, Mary B. "Discounting Versus Maximum Sustainable Yield." In Obligations to Future Generations, edited by R.I. Sikora, B. Barry, and D. Parfit. Philosophical Monographs, 1978.

Williams, Mary B. "Ethical Theories Underlying the Recombinant DNA Controversy." In Science, Ethics, and Politics: The Recombinant DNA Debate, edited by J. Richards. Academic Press, 1978.

"Ethical Issues in Regulation and Risk Management: A Study of Federal Science-Related Agencies"

Michael Baram
Franklin Pierce Law Center
Concord, NH 03301

Reference Codes: OBRA, PSTL, PENV, OBCA

Completion Date: January 1, 1980

Funding: $70,440 (Partial support provided by NEH)

Project Summary

This project sought to identify and assess the major ethical and legal issues in Federal regulation of risks to health, safety, and environment. A broad research inquiry into the subject of risk management in federal regulatory agencies was conducted using library and interview research methods.

Interviews were held with personnel of EPA, FDA, Consumer Product Safety Commission, FAA, OSHA, NRC, OMB and Council on Wage and Price Stability of the Executive Office. Case studies were developed to discover how each agency handled those risks within its jurisdiction. Assessment of the studies led to an understanding of the key elements of risk management, the influences that different types of risks have on risk management, and the ethical and policy issues associated with different risks.

The next stage of research studied how, after risk was measured, the agencies balanced multiple considerations of health, safety, environment, economics, and other factors in order to reach decisions. Cost-benefit analysis and its risk-benefit variations were assessed for ethical, legal, and public policy perspectives. In the final stage of the project, methods were developed to determine how to mitigate the ethical and legal problems in agency risk management, and to decide under what circumstances a quantitative risk-benefit approach should incorporate qualitative, value-based considerations or not be used as a basis for risk regulation. In many cases, alternative approaches such as cost-effectiveness analysis and technology-forcing were found to be suitable to particular regulatory problems.

Products

Baram, Michael. "Cost-Benefit Analysis: An Inadequate Basis for Health, Safety and Environmental Regulatory Decision-Making." Ecology Law Quarterly 8 (1980): 473+.

Baram, Michael. "Federal Regulation of Health, Safety and Environment and the Use of Cost-Benefit Analysis." Washington: The Administrative Conference of the United States, 1979.

Baram, Michael. "A Fresh Look at Federal Regulatory Strategies." Administrative Law Review 32, no. 2 (1980).

"A Study of the Ethical Foundations of Benefit-Cost Analysis Techniques"

Shaul Ben-David
Department of Economics
University of New Mexico
Albuquerque, NM 87131

Reference Codes: OBCA, EENV, ESNT, PNAT

Completion Date: Septmeber 28, 1979

Funding: $102,084 (Partial support provided by NEH)

Project Summary

This report reviews the history of benefit-cost analysis as a tool for evaluating public investments, especially in the water resources area; and discusses increased application of the technique to resources and environmental issues, and the consequences of new technologies and scientific programs. Such applications often involve ethical considerations less prominent in conventional applications of benefit-cost analysis, such as questions of the distribution of benefits and risks within the current generation and among future generations.

The following four ethical criteria for social decision making are defined with sufficient rigor that they are amenable to quantitative analysis: (1) "Benthamite," aimed at maximizing the total utility of society, (2) "Rawlsian," totally egalitarian, (3) "Nietschean," totally elitist, and (4) "Paretian," Golden Rule. To illustrate the significance of adopting one or another of these criteria in social decision making, benefit-cost analyses were made of three current social decision problems: (1) the helium storage program, (2) nuclear waste storage, and (3) control of automotive air pollution. These case studies were based on data found in available literature. Benefits and costs were weighted on the basis of the alternative ethical criteria and the results for the nature of the decisions taken were analyzed. The investigators found that the different criteria did have fundamental significance for the nature of the decision indicated, with the most restrictive being the Paretian or Golden Rule criterion.

The final report of this study was published by NTIS. An intermediate report, which contains two case studies not included in the final version, one dealing with the nuclear fuel cycle, and the other with automobile emissions, is available through the EVIST program.

Products

Ben-David, Shaul, Allen Kneese, and William Schulze. "Benefit-Cost Analysis, Ethics, and Strategic Public Decisions." (1982) Available through NTIS.

Kneese, Allen V., Shaul Ben-David, and William Schulze. "The Ethical Foundations of Benefit-Cost Analysis." In Energy and the Future, edited by Doublas MacLean and Peter Brown. New Jersey: Rowman and Littlefield, 1983.

"Value Issues in Technological Innovation and Social Choice: A Case Study of U.S. Rice Production Technologies in South Asia"

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Seattle, WA 98185

Reference Codes: STAS, PAGR, PDEV

Completion Date: December 31, 1979

Funding: $105,100

Project Summary

Development agencies and research centers originally envisaged the transfer of rice technology as a politically and socially neutral but economically powerful instrument for overcoming the existing physical and agronomic limitations on production in Asia. The purpose of this study was to extract, explore, and analyze some of the value assumptions and implications surrounding the transfer of innovative rice research and production techniques from the U.S. to South Asia. The investigators sought to develop and compare value profiles of U.S. rice science and technology institutions, international rice research and development institutes, and South Asian producers and their communities.

Procedures involved extensive interviews in rice institutes in the United States (in Louisiana, Texas, Arkansas, California, and Mississippi), at the International Rice Research Institute in the Philippines, and in India, Bangladesh, and Sri Lanka. The investigators also visited universities, Federal, and State experimental stations, growers, millers, and exporters' associations in these five countries.

They found that transferred rice technology altered local agrarian relations and values, tightened the connections and dependencies of the cultivators on suppliers and governments, and shifted the economic balance between different cultivating regions and social groups. The technology also precipitated political mobilization by cultivators, and caused conflict between the research centers and development organizations. The researchers concluded that these and other consequences could have been both anticipated and mitigated by a research and technology approach that was rooted in the local realities of South Asian rice agricultures, and in which research assumptions and values were subjected to the same critical analysis as other factors.

Products

Anderson, Robert S., Paul R. Brass, Edwin Levy, and Barrie M. Morrison, eds. Science, Politics, and the Agricultural Revolution in Asia. Boulder, CO: Westview Press, 1982.

Brass, Paul R. "The Politicization of the Peasantry in a North Indian State." Journal of Peasant Studies VII, no. 1 (July 1980) and VII, no. 4 (October 1980).

Morrison, Barrie M. "The Persistent Rural Crisis in Asia: A Shift in Conception." Pacific Affairs (Winter 1979/80).

"A Study of the Impact of Values on Economic Research and Policy Analysis"

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Economics Department
Florida State University
Tallahassee, FL 32306

Reference Codes: ESOC, ECON

Completion Date: March 31, 1980

Funding: $61,800

Project Summary

This project studied how values become involved in economic science, and how divergent values characterize contemporary schools of economics. Data sources included influential past and contempory economic textbooks and leading economic journals of the post-World War II period, in which were found the key concepts, hypotheses and policies associated with different historical and contemporary schools, and their underlying ethical propositions.

Project researchers developed a theoretical framework for the identification of values in economics. They concluded that utilitarianism was the ethical position from which economics retreated when it tried to escape ethics, and that utilitarianism was the ethical position to which it returned when escape became impossible. Although the expressed interest of orthodox economists in recent history has been to exclude ethical content, their program of logical positivism has failed to do so. Moreover, in the opinion of the investigators, the retreat from moral principles has created embarrassing contradictions in the field of economics, and has decreased the usefulness of the sciences' policy advisory role.

Products

Canterbery, E. Ray. Economics: The Embarrassed Science. Under submission, 1983.

Canterbery, E. Ray. "Rawlsian Justice and the Income Distribution." Journal of Economics and Business (1980).

Canterbery, E. Ray. "Review of 'Welfare Economics: A Liberal Restatement.'" Southern Economic Journal (April 1979): 1304-1307.

Canterbery, E. Ray. "Welfare Economics and the Vita Theory." Eastern Economic Journal. VI, no. 1 (January 1980).

Canterbery, E. Ray. "What Would We Have to Mean by Science to Have Economics Be One?" In Economics: A Science, edited by Alfred Eichner. M.E. Sharp, 1983.

"A Study of Value-Oriented Social Decision Analysis"

Kan Chen
Department of Electrical and
Computer Engineering
University of Michigan
Ann Arbor, MI 48109

Reference Codes: SPUB, SGEN, PNRG

Completion Date: August 31, 1981

Funding: $126,500

Project Summary

The objective of this project was to develop a rational procedure for identifying and communicating value trade-offs by various social groups involved in making a decision. The Value Oriented Social Decision Analysis (VOSDA) procedure developed during the project is a multistage interactive process designed to facilitate communication and discussion in decision situations involving multiple interests. In this procedure, the decision analyst acts as facilitator, not evaluator.

The VOSDA procedure consists of three stages: (1) Clarifying the problem, (2) Identifying alternative actions and possible consequences, and (3) Determining and describing preferred policies of individual participants. The procedure is not a group problem-solving technique, but rather a communication tool which helps to clarify areas of agreement and disagreement between the participants. The VOSDA procedure does not strive for consensus but for mutual understanding. It produces a detailed statement of the similarities and differences in attitudes and values of the interested parties.

The procedure was used in two case studies during the project: a debate over solid waste disposal in Ann Arbor, and a debate on the use of nuclear power in the state of Michigan. The procedure increased participant understanding of their own value positions as well as those of others involved in the process.

Products

Chen, Kan. "Michigan's Electrical Energy Future: Policy Alternatives." Prepared for Special Joint Committee on Nuclear Energy and State of Michigan Legislature, June 1980.

Chen, Kan, and J. C. Mathes. "Michigan's Electrical Energy Future: A Social Decision Analysis of Attitudes of Representatives of Relevant Institutions and Interest Groups." Prepared for Special Joint Committee on Nuclear Energy and State of Michigan Legislature, June 1981.

Chen, Kan, J. C. Mathes, and Kenan Jarboe. "Clarifying Energy Debates: Preliminary Results of a Social Decision Analysis." 1980 Proceedings of the International Conference on Cybernetics and Society, October 1980.

Chen, Kan, J. C. Mathes, Kenan Jarboe, and Sydney Solberg. "Alternative Energy Futures: Interest Group Tradeoffs." 1981 Proceedings of the International Conference on Cybernetic and Society, October 1981.

Chen, Kan, J. C. Mathes, Kenan Jarboe, and Janet Wolfe. "Value Oriented Decision Analysis: Enhancing Mutual Understanding to Resolve Public Policy Issues." IEEE Transactions on Systems, Man and Cybernetics (September, 1979).

"The Dynamics of Scientific Research: Three Case Studies of Scientific Research on Aggression"

Willard Gaylin
Institute of Society, Ethics
and the Life Sciences
360 Broadway
Hastings-on-Hudson, NY 10706

Reference Codes: ERES, EHUM, EBIO

Completion Date: February 29, 1980

Funding: $220,000

Project Summary

The Behavioral Studies Research Group of the Hastings Center conducted a two-year study during which an interdisciplinary working group met seven times to explore the ethical, political, and social issues surrounding recent research on human violence and aggression. The group examined the dynamics of a number of controversies that had erupted over efforts to conduct such research.

The project employed three case studies: (1) the controversy over the establishment of a Center for the Study and Reduction of Violence at the University of California at Los Angeles; (2) the withdrawal of funds for experimental behavior modification programs for violent offenders in Federal and State prisons; and (3) the halting of research on the XYY chromosomal anomaly. For each case, extensive background research on the events related to the controversy was conducted through a study of newspaper accounts, detailed personal interviews with key protagonists, and a study of various documents supplied by the main actors or otherwise uncovered in the course of the investigation. Following the preparation of these background materials, a two-day workshop

was held at The Hastings Center to which the key participants on both sides of the controversies were invited.

In addition to the case studies and workshop, a core group met three times over the two-year period, to explore the theoretical, conceptual, and ethical issues raised by scientific research on violence. The group also inquired what lessons for the future might be learned from these aborted research efforts on highly sensitive topics.

Products

Gaylin, Willard, Ruth Macklin, and Tabitha Powledge, eds. Violence and the Politics of Research. New York: Plenum Press, 1981.

Levine, Carol, and Margaret O'Brien Steinfels, eds. "The XYY Controversy: Researching Violence and Genetics." The Hastings Center Report 10, no. 4 (August 1980).

"Institute on Philosophical Ethics for Science and Engineering Faculty"

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Department of Philosophy
University of Maryland
College Park, MD 20742

Reference Codes: ESNT

Completion Date: August 31, 1979

Funding: $97,400 (Partial support provided by NEH)

Project Summary

The summer program of the Institute on Philosophical Ethics for Science and Engineering Faculty was held June 26-July 21, 1978 at Georgetown University. Forty-four members of university-level science and engineering departments from 20 States participated. Under the guidance of five professional philosophers and four guest lecturers, they studied contemporary problems in moral philosophy as applied to issues in science and technology. The participants spent over 15 hours per week in class, in addition to having extensive reading assignments and working together in small groups outside of formal class sessions. Among the topics discussed were recombinatory genetics, ethics and sociobiology, justice and the supersonic transport, and computer power and human values.

"A Study of Equity Issues in Radioactive Waste Management"

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Reference Codes: HENV, HOCC, EINF, ENRG, PNRG
Completion Date: March 31, 1980
Funding: $192,800

Project Summary

Three equity issues of radioactive waste management were identified in this study: the locus problem, the legacy problem, and the labor/laity problem. The locus problem, storing radioactive wastes at particular sites which involves diffuse benefits to society as a whole but concentrated risks as well as some benefits to the local populace, was explored at three levels: (1) society's experience in siting major public facilities; (2) apparent inequities in solutions offered to the abortive West Valley facility; and (3) the contribution of equity problems to the conflict over siting a national waste repository in the 1970s. An assessment of national policy showed inconsistent and inadequate treatment of the equity problem as well as a lack of institutional mechanism to redress inequity.

The legacy problem exists because radioactive wastes remain dangerous over thousands of years while the benefits of nuclear power are concentrated over several decades. Philosophical, legal and policy aspects of the legacy problem were evaluated. A lack of philosophical consensus to guide moral judgment and a reluctance of judicial institutions to adjudicate conflicts between present and future generations were apparent. It appeared likely that policy decisions would defer the responsibility for radioactive waste management to future generations.

The labor/laity problem arises because waste management systems may be designed to maximize either public health or worker safety, but usually not both. This problem was examined in two contexts: (1) the adequacy of market mechanisms for compensating workers for hazardous work; and (2) the moral issues implicit in using temporary workers in nuclear power plants. Analyses dealing with temporary workers revealed a growing problem in the nuclear industry: inequity for some types (but not others) of temporary workers, and obligations which society should consider in responding to the problem. In particular, principles of informed consent were explored as possible guidelines for public policy.

The investigation concluded by providing specific recommendations for fashioning a more equitable radioactive waste management program.

Products

Kasperson, Roger E. "Anticipating the Socioeconomic Impacts of Nuclear Waste Facilities Upon Rural Communities." In U.S. Senate Committee on Agriculture, Nutrition, and Forestry, Subcommittee on Rural Development, Hearings on the Socioeconomic Effects of a Nuclear Waste Storage Site on Rural Areas and Small Communities, 96th Congress, 2nd Session. Washington, DC: 57-63.

Kasperson, Roger E. "The Dark Side of the Radioactive Waste Problem." In Progress in Resource Management and Environmental Planning 2, edited by T. O'Riordan and R. d'Arge. New York: John Wiley & Sons, 1979.

Kasperson, Roger E. Ed., Equity Issues in Radioactive Waste Management. Cambridge, MA: Oelgeschlager, Gunn & Hain, 1983.

Kasperson, Roger E., C. Hohenemser, J. X. Kasperson, and R. W. Kates. "Institutional Responses to Different Perceptions of Risk." In Accident at Three Mile Island: The Human Dimensions, edited by D. Sills, C. Wolf, and V.B. Shelanski. Boulder, CO.: Westview Press, 1982.

Kasperson, J. X., R. E. Kasperson, C. Hohenemser, and R.W. Kates. "Institutional Responses to Three Mile Island." The Bulletin of the Atomic Scientists 35 (December 1979): 20-24.

"Study of Citizen Participation Mechanisms in State Weather Modification Policy"

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Syracuse Research Corporation
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Reference Codes: PENV, PSCI, SPUB

Completion Date: March 31, 1978

Funding: $13,125 (Partial support by NSF Public Understanding of Science program)

Project Summary

This project examined the role of citizen participation and formal mechanisms for such participation in the formation of policy concerning weather modification in the 50 states. Areas studied included the actual events involving citizen response to cloud seeding between 1970 and 1977; regulatory statutes covering the technology as they pertain to citzen participation in decision-making; and the relationship between citizen participation, literature, technology, and the weather modification cases.

The investigators found that formal regulatory mechanisms existed in 18 states. These mainly included public hearings (7), referenda (3), and notice of intent to operate. With regard to citizen participation in general, existing mechanisms did not provide an equal role for citizens in the decision-making process in the

states examined. State regulatory policy emphasized expert control of technical problems and discouraged consideration of socio-political issues of concern to lay citizens. In turn, experts on regulatory bodies emphasized technical issues, thereby reducing lay participation further. Poor interaction between regulatory bodies and the public encouraged citizens to redirect their questions to legislatures as political demands. Yet neither litigation nor legislative responses to citizen concerns seriously addressed the issue of designing regulations that were both technically competent and responsive to citizens.

Products

Dorsey, Thomas A., and W. Henry Lambright. "Citizen Participation Mechanisms and Weather Modification Policy: A Survey." (April 1978) Available through EVIST.

"Equitable Compensation in Personal Injury: A Comparative Study of Values in Biomedical Research and Industrial Practice"

Julia Loughlin
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Syracuse, NY 13210

Reference Codes: EINF, EHUM, HHAZ, STOX

Completion Date: September 30, 1979

Funding: $90,500 (Partial support provided by NEH)

Project Summary

Two important social inventions are used to determine in part the allocation of risks and costs of personal injury: partial compensation for the costs of injury, developed for the protection of employees subject to workplace hazards; and informed consent, developed for the protection of the human subjects of research. This project assessed the effectiveness of these two approaches, their relationships to larger systems of risk allocation, and their unanticipated consequences.

A review of literature pertinent to informed consent and compensation was undertaken in the areas of biomedical ethics, sociology, psychology, psychiatry, medicine and economics. The literature review also included studies on worker job satisfaction and the legal histories of cases in which consent and compensation were issues.

The analysis of previous research indicated that informed consent and compensation must be complementary elements of any cost allocation system, if the system is to meet criteria of free choice in risk acceptance and social assumption of the personal injury costs of production the society desires. The major barriers to the development of adequate protection for individuals exposed to the risks of technological development are inadequate criteria for the

production and dissemination of information, and dramatic underestimates of the actual injury costs borne by affected individuals.

Products

Loughlin, Julia. "American Values: International Implications." In Toxic Substances: Decisions and Values, Conference IV: Worldwide Problems, edited by Albert Fritsch. Washington, D.C.: Technical Information Project, 1979.

Loughlin, Julia. Reaction to "Compensation for Victims of Toxic Substance Pollution." In Toxic Substances: Decisions and Values, Conference III: Compensation, edited by Albert Fritsch. Washington, D.C.: Technical Information Project, 1979.

"Values and Electric Power Industry Regulation"

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University of Notre Dame
Notre Dame, IN 46556

Reference Codes: ENRG, PNRG

Completion Date: October 30, 1979

Funding: $83,000

Project Summary

Studies of the electric power industry have found that executives in the industry tend to rely on state regulation for normative guidelines affecting the public interest and that regulatory commissions eventually became "captured" by the industries they regulate. Since these studies have lacked an empirical base, this project sought to gather empirical data obtained through interviews and questionnaires and apply this new information to the results of the older studies.

Three hypotheses were tested: (1) that a significant number of regulators with the Illinois Commerce Commission (ICC) were not aligned with regulated industry ("captured"), (2) that nonaligned and aligned regulators held significantly different personal values, and (3) that nonaligned and aligned regulators were guided by significantly different ethical principles.

The first hypothesis was strongly confimed. The second hypothesis was disconfirmed, with both classes of regulators showing close similarity to values patterns for the population at large, as measured by standard values tests. The third hypothesis also was disconfirmed, with no sharp difference appearing with respect to conceptions of the public interest or to utilitarian principles of decision-making. All three conclusions cast doubt upon the cogency and the importance of the theories of "capture" in the academic literature.

Products

Sayre, Kenneth, et al. Regulation, Values and the Public Interest. Notre Dame: University of Notre Dame Press, 1980.

"Ethical Problems Confronting Scientists and Engineers as Community Developers"

Bert E. Swanson
Institute on Man and Science
Rensselaerville, NY 12147

Reference Codes: EENG, OPUB

Completion Date: February 28, 1979

Funding: $40,700

Project Summary

The objectives of this project were to explore a range of ethical problems that confront scientists and engineers who assist local governments in planning, implementing and evaluating various types of community development programs; and to use the findings as a framework for an invitational workshop. Issues addressed included (1) obligations toward a community and commitment to external professional imperatives; (2) obligations toward local citizens and commitments to local government; (3) obligations toward a community as a whole and toward special groups within that community; and (4) immediate and long range goals.

Although the workshop did not take place, a monograph was developed from the research, which analyzed a number of individual codes of ethics used by scientists and engineers involved in community development. Among its conclusions was that in the relationship between the professional and his profession and/or his colleagues, the concern for protecting the profession's reputation, for providing mutual aid, and for restricting competition was based on the assumption that such conduct would produce higher quality performance. However, it was likely that the desire to protect the reputation of the profession restrained criticism of it and fellow colleagues even when deserved, and restricted competition. The commitment to mutual aid reinforced solidarity through the socialization of young professionals and through limiting criticism of colleagues. Restrictions against unfair competition often resulted in higher costs to the client and greater income to the professional.

Products

Swanson, Edith P. "Critical Themes in Codes of Ethics." (1981) Available through EVIST.

"Values and the Public Works Professional"

Daniel Babcock
Carol Ann Smith
University of Missouri
Columbia, MO 65211

Reference Codes: EENG, SPUB, OPUB,

Completion Date: September 30, 1979

Funding: $25,500 (Partial support provided by NEH)

Project Summary

A day-long workshop on "Values and the Public Works Practitioner" held in conjunction with the annual Congress of the American Public Works Association in Boston on October 15, 1978 provided a forum for discussing the relationships between personal and institutional values and the practices of public works professionals. The purpose of the workshop was to sensitize engineering professionals in the field of public works to the ethical and social issues implicit in their work.

Papers focused on questions concerning social responsibility and the role of values in professional practice. Topics included alternate concepts of social responsibility; social equity and fairness; social and moral commitments; social responsiveness and citizen participation; and the relation between values and methods of planning, evaluating and decision-making.

Products

Babcock, Daniel, and Carol Ann Smith. Values and the Public Works Professional. Chicago: American Public Works Association, 1980. (Available from the American Public Works Association, 1313 East 60th Street, Chicago, IL 60637.)

"Ethical Problems in Social Science Research Involving Human Subjects"

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Kennedy Institute of Ethics/
Center for Bioethics
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Reference Codes: ESOC, ERES, EHUM

Completion Date: August 31, 1981

Funding: $195,180

Project Summary

This project sought to elucidate ethical concepts and explore past solutions to ethical dilemmas, as they pertain to social scientific activities. Special attention was devoted to ethical problems too new or too far removed from traditional research to be

governed by codes or laws. The investigators used empirical and methodological research techniques to study the ethical concepts involved.

The project team prepared extensive reviews of six key issues: (1) The political, moral and scientific consequences of theories, methods and procedures; (2) Who defines the good, goals and prohibitions in social research; (3) Risk, benefit and justice; (4) The relationship between investigator and investigated; (5) Acquisition and the use of information; and (6) Ethical socialization of social scientists. A conference, "Ethical Issues in Social Science Research," held in late 1978 at Georgetown University, served as the basis for a volume of the same name. A symposium entitled "Broadening Ethical Perspectives in Social Science" was presented at the 89th annual meeting of the American Psychological Association in 1981.

Products

Beauchamp, Tom L., Ruth R. Faden, R. Jay Wallace, and Leroy Walter, eds. Ethical Issues in Social Science Research. Baltimore: The Johns Hopkins University Press, 1982.

Sieber, Joan E., ed. American Behavioral Scientist. 26, no. 2 (November/December 1982). Special issue devoted to values and applied social science.

Sieber, Joan E. "Being Ethical: Personal and Professional Decisions in Evaluating Research." In Standards, Values and Ethics in Program Evaluation. New Directions in Program Evaluation, edited by R. Perloff, and E. Perloff. San Francisco: Jossey Bass, 1980.

Sieber, Joan E. "Critical Appraisal of Social Indicators." Evaluation and Program Planning 3 (1979).

Sieber, Joan E. "Ethical Issues in Social Sciences." Paper given at AAAS Workshop on Professional Ethics, Washington, D.C., November 15-16, 1979.

Sieber, Joan E., ed. The Ethics of Social Research: Fieldwork, Regulation and Publication. New York: Springer-Verlag, 1982.

Sieber, Joan E., ed. The Ethics of Social Research: Survey and Experiments. New York: Springer-Verlag, 1982.

Sieber, Joan E. "Negotiating an Evaluation Contract." Practicing Anthropology (1982).

Sieber, Joan E. "Psychological Research." In Guidebook on the Functioning of Institutional Review Boards, edited by J. Rachlin. President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research (1982).

Sieber, Joan E. "Purchasing and Selling Evaluation: A Contract Negotiation Process." Evaluation and Program Planning 4 (1981).

"Social Values and Clinical Medicine: An Interdisciplinary Conference"

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Cornel University Medical College
1300 York Avenue
New York, NY 10021

Reference Codes: EMED, ESNT, SSMD

Completion Date: August 20, 1982

Funding: $96,000

Project Summary

An interdisciplinary conference, "Changing Values in Medicine," was held in New York City November 11 - 13, 1979. Participants addressed the need for new methods, theories, and tools for action required by medicine's changing focus to the sick person rather than the disease. The conference honored Dr. Otto Guttentag, a physician who has worked as a philosopher of medicine for almost fifty years. Over three hundred physicians, theologians, health professionals, philosophers, educators, and interested laypersons attended. Physicians and philosophers discussed the nature and limits of clinical medicine; the axioms of the attending physician; theoretical issues in applying the universals of medical science to the care of individual patients; the stress in current American ethical writing on autonomy and antipaternalism; the necessity of new understandings of causality; and changes in medical education.

The conference proceedings will be published in 1984.

"Legal and Ethical Issues in the Delivery of Health Care Within Detention and Correctional Institutions"

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Reference Codes: EMED, HOTH, SSMD, SREH

Completion Date: March 15, 1980

Funding: $156,412

Project Summary

This project was designed to (1) sensitize prison health and correctional professionals, trainees and inmates to the legal, ethical and social issues inherent in providing medical care to incarcerated persons; (2) provide professionals and inmates with skills to identify specific problems and generic conflicts in penal institutions; (3) assist in developing strategies to resolve conflicts within prison health care; and (4) develop and disseminate teaching methodologies and materials able to be used or adapted in prisons, jails or detention centers.

Presentations on legal and ethical issues in correctional health care were delivered at two institutions to audiences of health care staff, correctional officers, lawyers, philosophers, and sometimes inmates. A health fair was conducted at a third. Over 400 inmates participated in workshops and seminars led by health professionals on the subjects of illness prevention, self-care, rights, duties and responsibilities for health in a prison. Attorneys and officials held pre-litigation conferences to develop alternatives to litigation. The project also initiated publication of the Journal of Prison Health: Medicine, Law, Corrections and Ethics.

Products

Drucker, Ernest, and Nancy Dubler. "Part One: Prison Health Care, Part Two: Prison Health, An Issue for Court, Part Three: Unresolved Issues in Prison Health." Fortune News (September, November and December 1978).

Journal of Prison Health: Medicine, Law, Corrections and Ethics. New York: Human Science Press. (Published two times each year since Spring/Summer 1981.)

Wishart, M.D. and N.N. Dubler, eds. Health Care in Prisons, Jails and Detention Centers, 1983. (Curriculum materials.)

"Ethical Issues in Biomedical Decision Making: Four Case Studies"

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Health Services Research
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Reference Codes: EBIO, EMED, EDNA, STAS, EINF, PSCI
Completion Date: November 30, 1981
Funding: $317,945 (Partial support provided by NEH)

Project Summary

This study analyzed the policy making process in medical innovation. Four case histories were investigated: the use of DES to prevent miscarriages and later as a postcoital contraceptive; the 1976 swine flu immunization program; the building of an artificial heart; and recombinant DNA research. These cases provided examples of efforts by public groups to influence policy, while illustrating the controversy over the costs, risks, and benefits of modern medical technologies.

The investigators examined historical records and documents, and conducted interviews and symposia. They found that although modern medical science and political policy making are strongly linked, declining popular control of the traditional institutions of government has caused the public to be isolated from policy

making involving the medical sciences. This has been especially true in the area of biomedical research. Although the four case studies revealed serious barriers to citizens participation, they showed that such participation is feasible, and that public contributions often add valuable practical and humanistic dimensions to policy debates.

Products

Bernstein, Barton J. "The Artificial Heart Program." The Center Magazine (May/June 1981).

Bernstein, Barton J. "On Mass Innoculation, Who Should be Heard?." The Center Magazine (Sept./Oct. 1981): 56-64.

Bunker, John P. "Distributive Justice and the Risks and Benefits of Ophthalmology." In Medicolegal Aspects of Ophthalmology, International Ophthalmology Clinics, edited by Jerome W. Bettman and Dan J. Tennenhouse 20, no. 4 (Winter 1980): 159-167. Boston: Little, Brown and Company.

Bunker, John P., and Jinnet Fowles. "Assessment of Medical Technology Strategies: Coverage and Reimbursement Options for Experimental Medical and Surgical Procedures." Prepared for the Congressional Office of Technology Assessment, September 1981.

Bunker, John P., Jinnet Fowles, and Ralph Schaffarzick. "Evaluation of Medical Technology Strategies: Part I: Effects of Coverage and Reimbursement, Part II: Proposal for an Institute for Health Care Evaluation." New England Journal of Medicine (March 11 and 18, 1982): 620-24, 687-92.

Dutton, Diana B. "The Impact of Public Involvement in Biomedical Policymaking: Evidence From Four Case Studies." In Citizen Participation in Science Policy, edited by James C. Peterson. (Submitted for publication.)

Dutton, Diana, et al. Innovation in Medicine: Policymaking and the Public, Berkeley, 1984 (expected).

Dutton, Diana B., Lawrence Molton, and John P. Bunker. "Methods and Problems of Compensation for Medical Injuries." Draft Report to the President's Commission for the Study of Ethical and Social Problems in Medicine. Washington, D.C., January 9, 1981.

Dutton, Diana B., and John L. Hochheimer. "Institutional Biosafety Committees and Public Participation: Assessing an Experiment." Nature 297 (May 6, 1982): 11-15.

Gurin, Joel, and Nancy E. Pfund. "Genetic Engineering, Bonanza in the Bio Lab." The Nation (November 22, 1980): 1 and 543-548.

Lubeck, Deborah P. "An Application of Benefit-Cost Analysis: Heart Disease Research and Prevention." Ph.D. Dissertation, University of California, Berkeley, 1981.

Lubeck, Deborah P., and John P. Bunker. "The Artificial Heart." Case Studies of Medical Technologies. Washington, D.C.: Congressional Office of Technology Assessment, 1981.

Lubeck, Deborah P., and John P. Bunker. "The Artificial Heart: Costs, Risks, and Benefits." In Critical Issues in Medical Technology, edited by Barbara J. McNeil and Ernest G. Cravalho, Boston: Auburn House, 1982.

Lubeck, Deborah P., and John P. Bunker. "Technology and the Artificial Heart." In Implementing Medical Technology: Issues and Strategies, edited by S. J. Reiser and M. Anbar (in press).

Noble, David F., and Nancy E. Pfund. "The Plastic Tower: Business Goes Back to College." The Nation (September 20, 1980): 1 and 246-252.

Pfund, Nancy, and Laura Hofstadter. "Biomedical Innovation and the Press." Journal of Communication 31, no. 2 (Spring 1981): 138-154.

Pfund, Nancy. "Biotechnology Industry: A New Resource for California." Report to the California Office of Appropriate Technology, March 15, 1982.

Ricci, Paolo F., and Lawrence S. Molton. "Risk and Benefit in Environmental Law." Science 214 (December 4, 1981): 1096-1100.

"Cultural and Ethical Components of Peer Review in Medicine: The Process and Consequences of Medicalizing Professional Deviance"

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Reference Codes: EMED, SSMD

Completion Date: December 1, 1981

Funding: $107,400

Project Summary

Organized medicine has recently identified "physician impairment" as a major source of professional incompetence and unethical conduct. The new conceptualization of professional deviance as the symptom or outcome of a medical problem that can be controlled through medical treatment signifies a trend toward the medicalization of professional self-governance. This study examined the development of the concept of physician impairment and its consequences for the problem doctor, the public, and the broader system of medical peer review.

The investigators used several data-collecting techniques, including examination of selected cases of problem doctors, interviews with heads of "impaired physician programs," and a mail survey of all state medical associations.

They traced the development of the concept of physician impairment and explained its rapid diffusion in terms of its compatibility with professional values and interests. A regulatory system that uses the medical model to interpret deviant behavior has lead to distinct patterns of social control, such as physician advocacy, non-judgmental rehabilitation, paternalistic intervention in the name of health, and monopolization of the management of the problem doctor by medical experts. The study concluded by assessing, from sociological and philosophical perspectives, the rights and duties of the physician-patient and the impaired physician program.

Products

Morrow, Carol Klaperman. "The Medicalization of Professional Self-Governance: A Sociological Assessment." In Competence and Impairment in the Medical Profession, edited by Stephen Scher and Judith Swazey. Forthcoming.

Morrow, Carol Klaperman. "Sick Doctors: The Social Construction of Professional Deviance." Social Problems 30, no. 1 (October 1982): 92-108.

Ruddick, William. "'Tough Love,' Physician Advocacy, and Moral Diffidence: Philosophical Reflections." In Competence and Impairment in the Medical Profession, edited by Stephen Scher and Judith Swazey. Forthcoming.

"Ethics and Values in Agricultural Research: A Case Study"

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Reference Codes: EAGR, PAGR

Completion Date: September 30, 1979

Funding: $73,500

Project Summary

Using the case of the development of a mechanical iceberg lettuce harvester and literature of similar cases, this project attempted to identify the social impacts of technological research and form a model for the projection of impacts which may result from comparable agricultural research cases. An additional goal of the project was to sensitize agricultural research scientists to the ethical problems associated with their work.

A series of workshops on research and technology applications in lettuce harvest mechanization was developed, with each workshop focusing on a particular group. Included were agricultural researchers, consumers, unions, lettuce harvest workers, growers and grower-shippers, University of California Agricultural Experiment Station administrators, State of California legislators, staff, and state agency personnel.

Using the results of the case of mechanized lettuce harvesting, the project investigators predicted six clusters of social consequences which could result from the mechanization of other agricultural industries: (1) displacement of labor would occur with actual volume dependent on technological factors and the adoption rate; (2) there would be a significant shift in the characteristics of the labor force with a notable move towards the employment of women; (3) patterns of work organization would change with workers being internationalized as "normal" employees of lettuce firms rather than remaining seasonal and external to the firms; (4) pressures would develop in three areas of social services delivery: housing, schools, and general social services; and (5) increased concentration would occur amongst grower-shippers.

Products

Friedland, William, Amy Barton, and Robert J. Thomas. Manufacturing Green Gold: The Conditions and Social Consequences of Lettuce Harvest Mechanization. Davis, CA: University of California, 1981.

"Workshops on Ethical Problems in the Production, Use and Regulation of Toxic Substances"

Albert J. Fritsch
Technical Information Project, Inc.
1346 Connecticut Avenue, NW.
Washington, DC 20036

Reference Codes: STOX, OBRA, STAS, HHAZ EENV
Completion Date: May 31, 1980

Funding: $83,179

Project Summary

A steering committee of experts and concerned individuals developed, arranged and conducted four workshops on the theme, "Toxic Substances: Decisions and Values." Held in Washington on February, April, June, and September 1979, each workshop focused on one of the following topics: Decisionmaking, Information flow, Compensation, and Worldwide Problems. The series developed in detail ethical and value issues associated with national and international toxic substances problems, and significantly augmented findings from the "Toxic Substances and Trade Secrecy" conference conducted by the same organization under another EVIST award.

The opening seminar covered the limitations of risk assessment, as they are reflected scientifically, politically, and ethically; and the central topic of discussion at "Information Flow," the second seminar, was the importance of information, specifically, the importance of testing information, and the role of non-scientific values in scientific risk testing or risk determination, and how those values affect information. The third conference addressed the mechanisms of informed consent and compensation, focusing especially on questions of liability and burden allocation. The

last conference in the series, "Worldwide Problems," dealt with many of the same issues discussed in the first three, but on a global basis. Topics centered around (1) American policy concerning toxic substances, especially as it related to their import and export, (2) the provision of adequate information about those substances to host countries, and (3) international regulation of toxic substances.

Proceedings of the conferences were published as four separate volumes, which are available from the Technical Information Project.

Products

Fritsch, Albert J., et al. Toxic Substances: Decisions and Values. Washington, D.C.: Technical Information Project, 1979. Four Volumes.

"Case Studies of Value Dilemmas in Law Enforcement"

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Institute for the Study of
Contemporary Social Problems
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Seattle, WA 98105

Reference Codes: ELAW, PSTL, STAS

Completion Date: September 30, 1981

Funding: $161,349 (Partial support provided by NEH)

Project Summary

This research dealt with the classic dilemma of how to obtain just ends by coercive means, associated with the introduction of sophisticated technologies such as computers and modern weaponry in police work. A study was done of decisions by five American law enforcement agencies to adopt these technologies. Each of the five agencies contributed a specimen decision in each area. Interviews and analysis of documents were used to construct a history of the decision-making process in each case.

The following questions were used to analyze the case data: (1) What circumstances and values initiated interest in new technology? (2) What individuals and institutions participated in the decisionmaking process? (3) What interests did the participants represent? (4) What information was collected as the basis for choice and how was it analyzed? (5) What procedures were followed in making the decision? (6) What was the outcome of the decision? (7) Who actually made it? (8) What was the reaction of other parties to it? Special attention was paid to examining value conflicts that arose during the decision-making process, and to identifying the circumstances prompting them.

Products

Hunt, R. G., and J. M. Magenau. "A Task Analysis Strategy for Analyzing Decision-Making in Organizations." Decision-Making in Public Organizations, edited by L. G. Nigro. New York: Dekker, 1983.

Hunt, R. G., and J. M. Magenau. "Value Dilemmas in Law Enforcement: A Study of Administrative Decision-Making in a Police Department." Law and Policy Quarterly 5, no. 4 (October 1983): 455-477.

Hunt, R. G., J. M. Magenau, and V. N. Fails. "A Method for Coding and Analyzing Decisions in Organizations." Buffalo: State University of New York, School of Management, Working Papers Series no. 512 (1981).

"Value Issues in the Controversy Over Recombinant DNA Research"

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Medford, MA 02155

Reference Codes: EDNA, ERES, PHST, PSCI

Completion Date: March 31, 1981

Funding: $64,001 (Partial support provided by NEH)

Project Summary

This project provided an in-depth study of the social, political, and scientific events associated with the development of recombinant DNA molecule technology. Covering the years between 1971 and 1980, the study was divided into four parts: (1) The Social and Political Context examined the tensions that existed between scientific and social institutions in the late 1960s and early 1970s, and traced early conceptualizations of risks. (2) The Asilomar Period focused on the international risk assessment meeting and examined how issues were conceptualized and what values were in conflict. (3) The Origins of Public Involvement looked at the creation of research guidelines by the National Institutes of Health and the growth of citizen participation. (4) The Science and Policy Debates provided an in-depth examination of the potential risks associated with gene splicing, and included a study of the commercial applications of R-DNA technology, the federal legislative history, and the regulatory initiatives taken by local and state governments.

The study paid special attention to value-laden issues that were raised within the community of scientists and between science and society. These included the responsibility of scientists for their research and its application; the role of public participation in the formation of science policy; and methodological norms underlying the validation of claims about risks. The study brought to light the responses of biologists to their potentially hazardous research, and the reactions of the scientific community

to the threat of social controls and external regulation of their discipline.

Products

Krimsky, S. "A Comparative View of State and Municipal Laws Regulating the Use of Recombinant DNA Molecule Technology." Recombinant DNA Technical Bulletin 2 (November 1979): 121-127.

Krimsky, S. Genetic Alchemy: The Social History of the Recombinant DNA Controversy. Cambridge: MIT Press, 1982.

Krimsky, S. "Patenting of Microorganisms and Higher Life Forms: Social and Ethical Concerns." In Patentability of Microorganisms: Issues and Questions, edited by Robert F. Acker and Moselio Schaechter. Washington, D.C.: American Society for Microbiology, 1981.

Krimsky, S. "Patents for Life Forms sui generis: Some New Questions for Science, Law, and Society." Recombinant DNA Technical Bulletin 4, no. 1 (April 1981): 11-15.

Krimsky, S., and D. Ozonoff. "Recombinant DNA Research: The Scope and Limits of Regulation." American Journal of Public Health 69 (December 1979): 1252-59.

"Value Issues in the Control of Technology-Related Damage: A Comparative Study of Emerging Policies in the United States and New Zealand"

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Reference Codes: HHAZ, PENV, PSTL, EENV

Completion Date: June 1, 1981

Funding: $168,995 (Partial support provided by NEH)

Project Summary

This study contrasted the approaches taken by the United States and New Zealand in the control of technology-related damages, and compared the patterns of solutions which have emerged in each country. The project reviewed areas of federal government intervention in the problem of environmental hazards, and attempted to determine the intent of governmental action, the values informing the action, and the dilemmas involved. A wide range of possible damages was studied, including damages from coal, oil and nuclear energy sources, workplace hazards, defective consumer products, public health programs, and toxic substances.

The investigators found that the American emphasis on control of damages contrasted with the New Zealand concern with provision for victims, and concluded that the American approach has been hampered by failure to engage issues of equity in the compensation of

victims. They also concluded that existing compensation mechanisms are inadequate. Reliance on tort law for standards of justice (which are based on concepts of individual responsibility) has prevented the understanding of liability from expanding at the same rate as the understanding of societal costs associated with industrial development.

The final report addressed the need for ethical commitment to new principles of responsibility, which would involve not only the resolution of conflict between efficiency and equity, but also the compatibility of collective responsibility for newly identified areas of damages with older concepts of individual responsibility. Consideration of the principles informing the New Zealand Accident Compensation Act, particularly the necessity of risk and the nature of social responsibility, would provide a means of engaging equity issues and resolving compensation dilemmas in the United States.

Products

Gaskin, Richard. "Swine Flu: An Adverse Reaction." Hastings Center Report (February 1980).

Kronick, Jane C. "Public Interest Group Participation in Congressional Hearings on Nuclear Power Development." Journal of Voluntary Action Research 11, no. 1 (Jan./March, 1982): 46-59.

Kronick, Jane , Miriam Vosburgh, and William Vosburgh. "Changing Principles for Disability in New Zealand." In Cross National Rehabilitation Policies: A Sociological Perspective. Sage Press, 1981.

Vosburgh, Miriam, and Jane Kronick. "The Family Policy Implications of a New Social Program: The New Zealand Accident Compensation Scheme." Journal of Marriage and Family Living (Summer, 1980)

"Bibliography of Engineering Ethics"

Robert F. Ladenson
Illinois Institute of Technology
IIT Center
Chicago, IL 60616

Reference Codes: EENG

Completion Date: November 30, 1979

Funding: $40,445 (Partial support provided by NEH)

Project Summary

The primary objective of this project was to stimulate discussion and analysis of ethical questions within the engineering profession. A selective, annotated bibliography of engineering ethics targeted to practicing engineers and teachers of engineers was compiled, published and disseminated by the Center for the Study of Ethics at the Illinois Institute of Technology. The biblio-

graphy is a resource for individuals and groups who are formulating ethical codes or analyzing specific ethical problems, as well as for teachers who plan to teach college level courses. The bibliography is distributed free to professional engineering societies, college and university engineering departments, professional journals of engineering and selected special interest groups.

Products

d'Anjou, E., ed. A Selected Annotated Bibliography of Professional Ethics and Social Responsibility in Engineering. Chicago: Illinois Institute of Technology, 1980.

"International Conference on Ethical and Value Issues in the Social Assessment of Science"

Everett Mendelsohn
Harvard University
Cambridge, MA 02138

Reference Codes: HHAZ, EBIO, PSCI, SSMD

Completion Date: December 31, 1978

Funding: $23,400 (Partial support provided by NEH)

Project Summary

A conference on "The Social Assessment of Science" was held at the University of Bielefeld, West Germany, May 26-28, 1978. The objective of the conference was to determine whether a cross-national study of the social assessment of science was feasible. Delivered papers covered a range of areas in which the public has become involved in assessing science's role in society. Among the topics were genetic manipulation, recombinant DNA, fetal research, and radiation protection. In addition, several theoretical and thematic papers were discussed. Support for the conference was also provided by the Deutsche Forschungs Gemeinschaft. A follow-up conference, held in Oslo, Norway in June, 1979, focused on the interaction between experts and lay persons in areas of scientific dispute and controversy.

Products

Mendelsohn, E., D. Nelkin, and P. Weingart, eds. The Social Assessment of Science. Bielefeld: A & W. Opitz. Nachf., 1978.

"Values Issues in Research on the Biological Effects of Microwave Radiation: A Case Study"

Nicholas Steneck
University of Michigan
Ann Arbor, MI 48109

Reference Codes: HHAZ, EBIO, OBCA

Completion Date: July 31, 1980

Funding: $116,032

Project Summary

This study began by reviewing research on biological effects of microwave radiation that led to the 1966 adoption of guidelines for exposure, in order to study the values and other non-scientific factors that affect such policy decisions. Pre- and post-1966 values and issues were then analyzed and compared. Major objectives were (1) to outline the chronology of past policy decisions, (2) to discover the values that directed these decisions, and (3) to engage the microwave community itself in a discussion of many of the broad policy and values issues that concern it.

The first two objectives were met through bibliographic surveys, interviews, and searches of archival and unpublished documents. The third objective was met through a conference on microwave radiation, which focused on cost/benefit analysis as applied to microwave bioeffects questions. Participants came from all sectors--government, industry, academia, and consumer groups.

Among the conclusions reached were (1) the pure science relating to the biological effects of microwave radiation has been heavily influenced by the practical role microwaves play in modern society; (2) the key policy decisions in the microwave field have consistently been made by persons who represent particular values orientations; and (3) the actual microwave standard set in 1966 reflects the tentative state environmental regulation was in less than two decades ago.

Products

Steneck, Nicholas. "The Relationship of History to Policy." Science, Technology and Human Values 7, no. 40 (Summer 1982): 105-112.

Steneck, N., H. Cook, A. Vander, and G. Kane. "Early Research on the Biological Effects of Microwave Radiation: 1940-1960." Annals of Science 37 (1980): 323-351.

Steneck, N., H. Cook, A. Vander, and G. Kane. "The Origins of U.S. Safety Standards for Microwave Radiation." Science 208 (June 13, 1980): 1230-1237.

"Values and Value Changes in the Formulation of the Pittsburgh Air Pollution Control Statutes"

Joel Tarr
Department of Social Science
Carnegie-Mellon University
Schenley Park
Pittsburgh, PA 15213

Reference Codes: HPUB, PNRG, PENV, PHST, SPOL
Completion Date: November 30, 1980
Funding: $54,700 (Partial support provided by NEH)

Project Summary

The major thesis of this study is that the development and implementation of a successful smoke control policy in Pittsburgh in the 1940-1950 period rested on key value changes as well as on fuel supply and technological considerations. Smoke pollution involved aesthetic, health, and property costs, but it also represented jobs and prosperity to many Pittsburghers. This tension between the negative impacts of smoke and its role as a symbol of prosperity made smoke control a difficult policy problem for over half a century.

In 1941 the Pittsburgh City Council passed smoke control statutes that regulated smoke from domestic as well as transportation and industrial sources. The statutes were the result of the efforts of a coalition of private and public groups who utilized the media and networks of voluntary associations to convince the population that the costs of smoke pollution out-weighed the benefits and that effective regulation was possible. The ensuing public support represented a major value shift on the part of the city's inhabitants. The acts were first implemented against domestic consumers in 1947-48, and resulted in a considerable improvement in Pittsburgh air quality.

The 1941 statute, however, had been passed with the belief that processed coal produced by the local coal industry would become the preferred smokeless fuel, but in the post-war period cheap natural gas from the Southwest largely replaced coal as a domestic fuel in Pittsburgh. Ultimately, the costs of smoke control were largely borne by coal miners and coal producers who lost an important segment of their market. In addition, working class residents who had to pay higher prices for clean fuel required by the statute suffered financial hardship. In the drive for the social good of clean air in Pittsburgh, equity considerations became secondary.

Products

Tarr, Joel, Gary Goodman, and Ken Koons. "Research Report: Coal and Natural Gas: Fuel and Environmental Policy in Pittsburgh and Allegheny County, Pennsylvania, 1940-1960." Science, Technology, and Human Values 5, no. 32 (Summer, 1980): 19-21.

Tarr, Joel, and Bill Lamperes. "Changing Fuel Use Behavior and Energy Transitions: The Pittsburgh Smoke Control Movement, 1940-1950." Journal of Social History. (Carnegie-Mellon University) 14, no. 4 (Summer 1981): 561-588. (Also published in Technological Forecasting and Social Change 20 (1981): 331-346.)

Tarr, Joel, and Kenneth Koons. "Railroad Smoke Control: The Regulation of a Mobile Pollution Source." In Energy and Transport, edited by George Daniels and Mark Rose. Beverly Hills: Sage Publications, 1982.

Monograph expected in 1985.

"Ethical Problems of Fieldwork"

Murray L. Wax
Social Science Institute
Washington University
St. Louis, MO 63130

Reference Codes: ERES, ESOC

Completion Date: July 31, 1981

Funding: $194,000

Project Summary

Working with the professional associations of anthropologists and sociologists and with influential fieldworkers, the project attempted to locate and analyze the ethical problems generated by fieldwork and to develop strategies for disciplinary self-regulation.

Three workshop-conferences were conducted, involving experienced fieldworkers, political scientists, moral philosophers, administrators, and theologians. The investigators also organized relevant workshops or paper sessions at seven annual meetings of professional associations, and worked with the associations to initiate relevant committees and programs. In addition, categorized bibliographic materials on ethical issues were compiled and transferred to a computerized system at California State University, Hayward, which stores bibliographic entries on ethical decision-making in social science research.

Products

Cassell, Joan. "Risk and Benefit to Subjects of Fieldwork." The American Sociologist 13, no. 3 (August 1978): 134-143. Includes comments by critics and response by Cassell: 153-176.

Cassell, Joan. "Technical and Moral Error in Medicine and Fieldwork." Human Organization 40, no.2 (Summer 1981): 160-168.

Cassell, Joan. "Red Herrings and Anecdotes." Commentary on "Government Regulation of Research" by Lauren H. Seiler and James M. Murtha. Society 18, no. 1 (November/December 1980): 32-33.

Cassell, Joan. "Ethical Principles for Conducting Fieldwork." American Anthropologist 82, no. 1 (March 1980): 28-41.

Cassell, Joan. "Fieldworkers and Their Hosts." Commentary on "The Threat of the Stranger," by Myron Glaser. Hastings Center Report 11, no. 1 (February 1981): 25.

Cassell, Joan, and Murray L. Wax. "Toward a Moral Science of Human Beings." Social Problems 27, no. 3 (February 1980): 25.

Cassell, Joan. "Does Risk-Benefit Analysis Apply to Moral Evaluation of Social Research." In Ethical Issues in Social Science Research, edited by Tom L. Beauchamp, Ruth R. Faden, R. Jay Wallace, Jr., and Leroy Walters. Baltimore: The Johns Hopkins Press, 1982.

Cassell, Joan. "Harms, Benefits, Wrongs, and Rights in Fieldwork." In The Ethics of Social Research: Fieldwork, Regulation, and Publication, edited by Joan E. Sieber. New York: Springer-Verlag, 1982.

"Ethical Problems of Fieldwork." Special issue of Social Problems 27, no. 3 (February 1980).

Johnson, Carole Gaar. "Risks in Publication of Fieldwork." In The Ethics of Social Research: Fieldwork, Regulation, and Publication, edited by Joan E. Sieber. New York: Springer-Verlag, 1982.

Thomson, Judith Jarvis, et al. "Regulations Governing Research on Human Subjects: Academic Freedom and the Institutional Review Board." Academe 67, no. 6 (December 1981): 358-370.

Wax, Murray. "Research Reciprocity Rather than Informed Consent in Fieldwork." In The Ethics of Social Research: Fieldwork, Regulation, and Publication, edited by Joan E. Sieber. New York: Springer-Verlag, 1982.

Wax, Murray, and Joan Cassell. "From Regulation to Reflection: Ethics in Social Research." The American Sociologist 16 (November 1981): 224-229.

Wax, Murray L. "Paradoxes of 'Consent' to the Practice of Fieldwork." Social Problems 27, no. 3 (February 1980): 272-283.

Wax, Murray L. "On the Presentation of Self in Fieldwork: The Dialectic of Mutual Deception and Disclosure." Humanity and Society 3, no. 4 (November 1979): 248-259.

Wax, Murray L. Letter: "Overseeing Regulations or Intimidating Reseachers." IRB 3, no. 4 (April 1981): 8-10.

Wax, Murray L. "Fieldworkers and Their Hosts." Comment on "The Threat of the Stranger" by Myron Glazer. Hastings Center Report 11, no. 1 (February 1981): 25.

Wax, Murray L. and Joan Cassell, eds. Federal Regulations: Ethical Issues and Social Research. Vol. 36, AAAS Selected Symposia Series. Boulder, Colorado: Westview Press, 1979.

"Workshops on Ethical Issues in Engineering"

Vivian Weil
Illinois Institute of Technology
Ethics Center
Chicago, IL 60616

Reference Codes: EENG, ERES, EWHI

Completion Date: November 30, 1980

Funding: $68,770 (Partial support provided by NEH)

Project Summary

The objectives of this project were to identify problems in the areas of moral and social responsibility of engineers and to produce materials that could be used by others in courses which discussed such problems. A two-week institute held at the Illinois Institute of Technology in July, 1979 was devoted to these issues. The twenty-four participants, engineering and humanities educators, were involved in research and teaching on such problems as professional responsibilities within corporations; moral aspects of professionalism; the content and function of codes of ethics; dissent, whistleblowing, and due process; the role of government regulation; and conflicts between client interest and public policy. A number of invited specialists in the social sciences, management, and law, representatives from engineering societies, and officials of corporations and government agencies contributed to the analysis of the sources of engineers' problems and to the investigation of remedies.

A follow-up conference was held in June, 1980 at Rensselear Polytechnic Institute. It consisted of presentations based on research and teaching carried out in the interim by members of the original IIT participant group and staff. Sessions dealt with evaluation of the codes, moral reasoning and engineering, educational needs and ethical standards, moral dilemmas of highway safety engineers, ethical issues in risk assessment, the value of human life, consideration of a duty to prevent harm, cost/benefit analysis, and elementary problems of engineering design. At the joint sessions, IIT participants presented work on psychological aspects of moral autonomy, moral and professional development, and pedagogical problems.

Products

Kultgen, John. "The Ideological Use of Professional Codes." Business and Professional Ethics Journal 1, no. 3 (Spring 1982): 53-69.

Meese, George P.E. "The Sealed Beam Case: Engineering in the Public and Private Interest." Business and Professional Ethics Journal 1, no. 3 (Spring 1982): 1-20.

Weil, Vivian. "Report of the Workshops on Ethical Issues in Engineering." Chicago: Illinois Institute of Technology, Center for the Study of Ethics in Professions, 1979.

Tapes of formal sessions of the workshops are available through the IIT Center.

EVIST AWARDS FISCAL YEAR 1979

"Workshop on Ethics Activities in American Scientific and Engineering Societies"

Rosemary Chalk
American Association for the
Advancement of Science
1515 Massachusetts Avenue, NW.
Washington, DC 20005

Reference Codes: EENG, ESNT, ECOR

Completion Date: December 31, 1980

Funding: $48,594

Project Summary

A two day workshop was held in November 1979 which reviewed the role of professional societies in developing ethical rules for their members. Participants included representatives of the societies, individual scientists and engineers who have dealt with significant ethical problems in their professional work, and interested scholars and journalists.

To focus the workshop agenda, a detailed survey of the ethical codes and practices of the AAAS's 240 affiliated societies was undertaken first, and its results sent in advance to all conference participants. The survey assessed the present status of ethical codes and guidelines and related enforcement mechanisms within American scientific and engineering societies.

At the conference, the survey findings were used to determine future courses of action for the societies with regard to their ethics activities, and to develop closer cooperative inter-society mechanisms in this area. Topics addressed by conference participants included the lack of consistent attention to professional ethics issues within the scientific and engineering societies; the lack of common definitions for the procedures used by the societies to respond to ethical concerns; the role of the public in the development and application of ethical rules in the professions; and the need to expand the societies' support of members who come into conflict with their employers when they attempt to uphold ethical rules adopted by their profession.

Chalk, Rosemary, Mark S. Frankel, and Sallie B. Chafer. AAAS Professional Ethics Project: Professional Ethics Activities in the Scientific and Engineering Societies. Washington, D.C.: American Association for the Advancement of Science, 1980.

"Value Presuppositions in Scientific Textbooks: An Annotated Bibliography"

R. Lance Factor
Knox College
Galesburg, IL 61401

Reference Codes: ESNT, ESEE

Completion Date: December 31, 1981

Funding: $27,640 (Partial support provided by NEH)

Project Summary

Introductory science textbooks are an important source of values about science for the students they address. This project sought to identify such value presuppositions by evaluating forty college-level non-major introductory chemistry textbooks and eight similarly designed physics textbooks. The books were divided into three subsets: "Science and Society" texts, in which scientific facts were revealed through the study of social issues; "Vocationally Relevant" texts targeted to allied health students, in which facts were selected for their supposed relevance to the intended vocation of the reader; and "Skills and Drills" texts, which emphasized the acquisition of facts and problem solving skills.

Across the three categories, there was a general consensus that science is progressive, that its history has been a linear progression from ignorance to enlightenment, and that its products are unquestionably good. In general, the books were found to provide little insight about the actual methodology of science, and few authors discussed the fact that experts often disagree in theoretical and practical matters. A detailed analysis of value presuppositions, as well as annotated bibliographies describing the books, and tables showing the amount of space devoted to various social issues were published in a short monograph.

Products

Factor, Lance and Robert Kooser. Value Presuppositions in Science Textbooks: A Critical Bibliography. Galesburg, IL: Knox College, 1981.

"Ethical and Value Issues in Natural Resource Development"

Raymond L. Gold
University of Montana
Missoula, MT 59812

Reference Codes: ORUS, EENV, SENV

Completion Date: November 30, 1981

Funding: $71,800 (Partial support provided by NEH)

Project Summary

This project attempted to lay the groundwork for an accommodative approach to natural resource development that would be applicable nation-wide. Such an approach would attempt to mitigate the ethical problems and value conflicts traditionally generated when rapid and massive industrialization takes place in or near small, rural communities. The focus was on the ethical positions and value concerns of scientists and engineers associated with a proposed mine in the West.

Ethnographic procedures were used to do sampling and data gathering. Local and technical advisory committees provided guidance, feedback, and evaluation. Data obtained from an independently funded study of a similar situation supplemented and complemented the findings.

Findings concerning ethical differences and value conflicts between predevelopment residents on the one hand and scientists and engineers on the other led to formulation of principles and procedures necessary for implementing an accommodative approach. The approach emphasized the need for policy formation and negotiation, recognition of local residents' social and cultural values, open planning, suitable management techniques, equitable local control, and provisions for minimizing phase-out impacts. To date, accommodative approaches by developers have resulted primarily from the values and actions of certain organizational leaders among them.

Products

Gold, Raymond, Alice W. Sterling, and Katherine McGlynn. "Accomodation vs. Conflict: Ethical and Value Issues in Energy (and Other Natural Resource) Development." Paper presented at the conference on the Human Side of Energy, University of Alberta, Edmonton, August 1981.

Gold, Raymond. "Rural Westerners and Local Industrialization: Accommodation of Differences." Public Relations Quarterly (Fall 1982).

"Drugs as Medical Technology: Ethical Issues in Treatment of Borderline Hypertension"

Sally Guttmacher
Columbia University
600 West 168th Street
New York, NY 10032

Reference Codes: EINF, EMED, SSMD

Completion Date: March 31, 1983

Funding: $236,708

Project Summary

The treatment of hypertension has increasingly become a major health policy concern in the United States and abroad. This four year project explored ethical issues in the use of chemical intervention to treat mild hypertension, and focused on such areas as informed consent, the development of medical consensus, and the promotion of chemical intervention for ambiguous conditions.

The most salient issue which emerged from the study was that of the influence of ingrained medical values, practices and habits in creating consensus concerning treatment protocols. The scientific, ideological, social, political and economic factors which led to the current agreement within the medical community to aggressively treat mild hypertension will be discussed in a forthcoming monograph. Project participants have also appeared before numerous professional associations and public forums (e.g., American Public Health Association).

Products

Guttmacher, Sally. Paper presented at National Conference on High Blood Pressure Control for Session on Patient Management, 1980.

Guttmacher, Sally. "The Ethics of Worksite Screening." Business and Health (March 1984): 23-26.

Guttmacher, Sally, Michael Teitelman, Georganne Chapin, Gail Garbowski, and Peter Schnall. "Ethics and Preventive Medicine: The Case of Borderline Hypertension." The Hastings Center Report (February 1981): 12-20.

Group's work cited extensively in Kaplan, N.W. Clinical Hypertension. Baltimore: Williams and Wilkins, 1982.

"Ethical Issues in Research on Human Reproduction: A National Workshop"

Helen Holmes
Federation of Organizations
for Professional Women
2000 P Street, NW
Washington, DC 20036

Reference Codes: HPUB, EMED, EINF, SPOP

Completion Date: March 31, 1981

Funding: $85,216 (Partial support provided by NEH)

Project Summary

During a five day workshop at Hampshire College in Amherst, Massachusetts in June 1979, seventy-six participants from twenty-four states met to identify relevant issues for choosing directions in reproductive research and technology. The participants, mostly women, included professionals, academics from eight disciplines, and consumers.

Ten interdisciplinary panels discussed contraceptive research, Depo-Provera and sterilization abuse, childbirth technologies, childbirth social control, diethylstilbestrol, prenatal diagnosis, newborns with birth defects, sex preselection, and embryo manipulations.

In the workshop analyses, many questions being asked in current policymaking were deemed inappropriate. In addition, many values revealed in present reproductive practices (e.g. profit-seeking, technology infatuation) were thought to be ethically questionable. Participants concluded that the design of reproductive technologies requires social and political choices beyond the domain of biomedical and technical "experts," and urged systematic involvement of consumers, and of women (both lay and professional) at all levels of policymaking.

Products

Holmes, Helen B., Betty B. Hoskins, and Michael Gross, eds. Birth Control and Controlling Birth: Women-Centered Perspectives. Clifton, NJ: The Humana Press, 1980.

Holmes, Helen B., Betty B. Hoskins, and Michael Gross, eds. The Custom-Made Child? Women-Centered Perspectives. Clifton, NJ: The Humana Press, 1981.

Holmes, Helen B., and Susan R. Peterson. "Rights Over One's Own Body: A Woman-Affirming Health Care Policy." Human Rights Quarterly (1981): 71-87.

"Ethical Issues in the Assessment of Science: Development and Testing of Indicators of Quality"

Gerald Holton
Harvard University
Cambridge, MA 02138

Reference Codes: ESNT, ERES

Completion Date: September 30, 1981

Funding: $82,475 (Partial support provided by NEH)

Project Summary

The objective of this project was to delineate and analyze the major ethical and conceptual questions which underlie the problem of trying to measure the quality and substance of science. Such questions can include: What differing ethical presuppositions do scientists, policy makers, and uninvolved citizens bring to bear in assessing the quality of science? To what extent can or should social values be used to determine the quality of scientific research? What value issues are implied by the use of social utility as an indicator of scientific quality? By what means can value conflicts regarding appropriate measures of quality between scientists and various groups of non-scientists be reconciled?

The project held a series of seminars involving scholars from the natural and physical sciences, social sciences, and humanities who came from university faculties and administration, industry, and government. Essays which resulted from the seminars concluded that while quantitative measures may be useful for gross assessments of quality in science and technology, a rounded picture of scientific activity requires the inclusion of the conceptual, social, and historical contexts of science. The following questions were among those explored in the essays: How do we develop such qualitative measures? Are different measures needed for different groups involved in and affected by scientific work? What are the constraints on quality?

Products

La Follette, Marcel, ed. Quality in Science. Cambridge: The MIT Press, 1982.

"On Developing Indicators of Quality in Science and Technology." Parts I and II. Science, Technology, and Human Values (Winter 1982 and Spring 1982).

"The Influence of Values of Behavioral Scientists on Research and on American Society 1946-1976.

Leonard Krasner
SUNY-Stony Brook
Stony Brook, NY 11794

Reference Codes: ERES, ESOC

Completion Date: July 31, 1981

Funding: $82,544 (Partial support provided by NEH)

Project Summary

This project sought to (1) identify and assess the influence that value systems of scientists studying behavior modification have on their research, and the impact of that research on society, (2) compare the value systems of behavioral psychologists with their non-behavioral contemporaries, and (3) develop a methodology and theoretical framework for assessing and understanding the role of values in guiding the behavior of scientists in general.

The group of scientists whose ethical and value systems were analyzed were Americans who were active in behavior modification research between 1946 and 1976. Three questionnaires were developed to measure epistemological assumptions in science, theoretical assumptions within psychology, and broad social values (political philosophy, social darwinism, theism, health care, environmentalism, research ethics). Information was obtained for 87 subjects in the behavioral group and for 37 in a comparision group of non-behavioral psychologists.

Highly significant value differences were found between the groups on the first two questionnaires but not on the third. The findings suggested that as scientists, the behavioral group differed sharply from other psychologists; however, as citizens, they shared many of the same broad social values as their non-behavioral colleagues.

Products

Houts, Arthur C. and Leonard Krasner. "Slicing the Ethical Gordian Knot: A Response to Kitchener." Journal of Consulting and Clinical Psychology 48, no. 1 (1980): 8-10.

"U.S. Student Pugwash Conference on Science and Ethical Responsibility"

Sanford A. Lakoff
University of California, San Diego
La Jolla, CA 92093

Reference Codes: EBIO, PSCI, ESNT, PDEV

Completion Date: September 30, 1980

Funding: $86,551 (Partial support provided by NEH)

Project Summary

Seventy-five outstanding advanced undergraduate and graduate students in science and humanities from throughout the country and 38 invited senior scientists, humanists, and government officials met from June 19-26, 1979 at the University of California-San Diego. The objectives of the project were to sensitize students to the ethical and social issues associated with science and technology and provide an opportunity for them to examine these issues critically with distinguished senior participants.

They met during the week in plenary sessions and workshops devoted to the following topics: (1) Bio-Medical Research and its Social Implications; (2) Scientists and Defense Policy; (3) Technology and the Needs of Developing Countries; (4) Scientific Knowledge and Human Values; and (5) Scientists and Political Activity.

There was extensive coverage of the conference in the press, and a television program, based on a plenary session in which the proposed SALT II treaty was debated, was prepared by KPBS-TV and disseminated for broadcast. A continuing education course, under the auspices of the UC-SD Extension program, was offered concurrently with the conference. Most of the student delegates submitted final papers and the best of the submissions were included, along with invited papers from certain of the senior participants, in a volume of the conference proceedings.

Products

Lakoff, Sanford, ed. Science and Ethical Responsibility: Proceedings of the Student Pugwash Conference, June 19-26, 1979. Reading, MA: Addison-Wesley Publishing Co., 1980.

Newspaper articles, in, e.g., The Washington Post, June 29, 1979, The San Diego Union, June 21, 1979, Baltimore Evening Sun, July 10, 1979.

"Intergenerational Ethics and National Energy Policy"

Douglas MacLean
University of Maryland
College Park, MD 20742

Reference Codes: ENRG, PNRG, EOTH

Completion Date: June 30, 1981

Funding: $89,113 (Partial support provided by NEH)

Project Summary

An acceptable long-term energy policy depends not only on economic and scientific facts, but also on understanding the nature of obligations to future generations. The objectives of this project were to develop a set of consistent ethical principles that would illuminate policy analyses involving issues of obligation to future generations, and to demonstrate the applicability of those principles in determining or evaluating national energy policy.

Three two-day meetings of a fifteen member working group consisting of natural and physical scientists, social scientists, philosophers, and policy makers took place in Washington, D.C. in late 1979 and early 1980. Participants reached a consensus on a new moral principle of justice between generations, and developed the justification of that principle and its application to energy policies.

According to the principle, all generations are owed equal opportunities. Other theories, which differ dramatically, have focused on the distribution of welfare or of resources, with the result that they usually depart from a principle of equality. Another difference, especially important for energy policy, is in determining compensation for one generation's use of nonrenewable supplies of resources or for the imposition of risks on later generations. If opportunities must be made equal, the participants concluded, then not any economic benefit can compensate for any economic or resource loss, but only those that preserve or increase a normal range of opportunities.

Products

Barry, Brian. "Intergenerational Justice in Energy Policy." In Theories in Practice, edited by Bruce Sievers. Berkeley: Univ. of California Press. Forthcoming.

MacLean, Douglas. "Benefit-Cost Analysis, Obligations to the Future, and Energy Policy: A Survey of the Issues." Science, Technology and Human Values 5 (Spring 1980): 3-10.

MacLean, Douglas. "Quantified Risk Assessment and the Quality of Life," In Energy and Social Adaptation, edited by Dorothy Zinberg. Forthcoming.

MacLean, Douglas. "Radioactive Wastes: A Problem of Morality Between Generations." In Equity Issues in Radioactive Waste Management, edited by Roger Kasperson and Robert Kates. Cambridge: Oelgeschlager, Gunn, and Hain, 1983.

MacLean, Douglas, and Peter G. Brown, eds. Energy and the Future. Maryland Studies in Public Philosophy. Totowa, NJ: Rowman and Littlefield, 1983.

Perelman, Lewis J. "Speculations on the Transition to Sustainable Energy." Ethics 90 (1980): 392-416.

Schulze, William D., and Allen V. Kneese. "Risk in Benefit-Cost Analysis." Risk Analysis 1 (1981): 81-88.

"Ethical and Value Issues in Systems Analysis"

Marvin Manheim
Department of Civil Engineering
Massachusetts Institute
of Technology
Cambridge, MA 02139

Reference Codes: EENG, STRN

Completion Date: November 30, 1981

Funding: $153,547

Project Summary

The attention to environmental impacts of public and private actions has increased tremendously since the early 1970s, and has had a significant effect on professional practice in many fields, with the most noticeable effects being at the technical and procedural levels. This project examined the ethical and value issues implicit or explicit in environmental planning assessment and in transportation systems analysis and planning. The investigators studied these issues in the context of several case studies which analyzed transportation, waste management, and water quality projects. Methodology for the case studies involved reviews of published papers, reports, and limited-circulation technical memoranda; examination of press reports and other materials relevant to social and political concerns associated with the cases; interviews with key technical and political actors; and some alternative modeling work. The studies provided numerous examples of ways in which values affect decision-making by professionals in these fields. Results of the project were published in a special issue of the Environmental Impact Assessment Review dealing with ethical and values issues in EIA.

Products

Bicks, Michael. "Evolution of the Southwest Corridor Project." Environmental Impact Assessment Review 2, no. 4 (December 1981): 388-397.

Manheim, Marvin L. "Ethical Issues in Environmental Impact Assessment." Environmental Impact Assessment Review 2, no. 4 (December 1981): 315-334.

Manheim, Marvin L. "Viewpoint: Ethical and Value Issues in EIA." Environmental Impact Assessment Review 2, no. 4 (December 1981): 312-314.

Rubin, Jerome. "Controversial Sewer Plan for North Branford, Connecticut." Environmental Impact Assessment Review 2, no. 4 (December 1981): 378-387.

Rubin, Jerome. "Sludge Disposal in South Paris, Maine." Environmental Impact Assessment Review 2, no. 4 (December 1981): 368-377.

Susskind, Lawrence E., and Louise Dunlap. "The Importance of Nonobjective Judgments in Environmental Impact Assessments." Environmental Impact Assessment Review 2, no. 4 (December 1981): 335-367.

"Ethical and Value Dimensions of the Nuclear Debate"

Robert C. Mitchell
Resources for the Future
1755 Massachusetts Avenue, N.W.
Washington, DC 20036

Reference Codes: HENV, EENV, ENRG, PSCI

Completion Date: September 30, 1981

Funding: $155,412

Project Summary

The debate about the acceptability of nuclear power has raised a number of important ethical and value issues, among them responsibilities to future generations; means for determining acceptable levels of scientific risks; equitable distributions of risks and benefits; and the appropriate roles for scientific experts in political controversies. The objective of this project was to analyze the nuclear debate in the United States as a social movement, focusing attention on the degree to which these ethical and value issues have helped to shape the ideologies of groups involved on both sides of the debate.

Methodologies included analysis of relevant documents and existing survey data, and in-depth interviews with approximately one hundred leaders of the pro- and anti-nuclear movements in the United States. National social survey data was analyzed to determine the degree to which public opinion about nuclear power has been motivated by values.

It was found that opponents of nuclear power consist of three principal ideological types: reformists, who appeal to the values of efficiency, expertise, individualism and pastoralism; culturalists, who appeal to pastoralism and individualism as well as to humanism, localism and holism; and radicals, for whom equity

and justice are particularly important values. Alternately, a pro-nuclear movement studied sought to elicit support for nuclear power by appealing to utilitarian and hierarchical values.

Products

Mitchell, Robert Cameron. "Public Opinion and Nuclear Power: Before and After Three Mile Island." Resources 64 (January-April 1980): 5-8.

Mitchell, Robert Cameron. "How 'Soft,' 'Deep,' or 'Left'? Present Constituencies in the Environmental Movement for Certain World Views." Natural Resources Journal 20, no. 2 (1980): 345-358.

Mitchell, Robert Cameron. "Public Polling on Nuclear Power: A Critique of the Polls After Three Mile Island." In Polling on the Issues, edited by Albert H. Cantril. Cabin John, MD: Seven Locks Press, 1980.

Mitchell, Robert Cameron. "From Elite Quarrel to Mass Movement (The Anti-Nuclear Movement)." Transaction/SOCIETY 18, no. 5 (1981): 76-84.

Mitchell, Robert Cameron. "Public Response to a Major Failure of a Controversial Technology." In Accident at Three Mile Island: The Human Dimensions, edited by David L. Sills, C.P. Wolf, and Vivien B. Shelanski. Boulder CO: Westview Press, 1982.

Mitchell, Robert Cameron. "Rationality and Irrationality in the Public's Perception of Nuclear Power." In Nuclear Power and the Public, edited by William Freudenberg, and Eugene Roza. Forthcoming.

Nelkin, Dorothy, and Rebecca Logan. "Labor and Nuclear Power." Environment 22, no. 2 (1980): 6-13, 24.

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Nelkin, Dorothy. "Anti-Nuclear Connections: Power and Weapons." Bulletin of the Atomic Scientists (April 1980): 36-40.

Nelkin, Dorothy. "Native Americans and Nuclear Power." Science, Technology and Human Values 6, no. 35 (1980): 2-13.

Nelkin, Dorothy. "Some Social and Political Dimensions of Nuclear Power." American Political Science Review 75 (March 1981): 132-142.

Nelkin, Dorothy. "The Expert at Three Mile Island." In Accident at Three Mile Island: The Human Dimensions, edited by David L. Sills, C.P. Wolf, and Vivien B. Shelanski. Boulder, CO: Westview Press, 1982.

"Ethical Responsibilities of Professional Engineering Societies"

Stephen H. Unger
Columbia University
New York, NY 10027

Reference Codes: EENG, EWHI

Completion Date: August 31, 1981

Funding: $82,618 (Partial support provided by NEH)

Project Summary

In recent years, several highly publicized whistle-blowing cases have focused attention on ethical dilemmas that are sometimes encountered by engineers working in industry. This project analyzed the ethical, legal, and institutional issues associated with whistle-blowing by engineers, and developed strategies to permit engineering societies to assist in resolving individual whistle-blowing cases.

The project's interdisciplinary team consisted of an electrical engineer, a philosopher, and a legal expert. The investigators conducted a literature survey and held discussions with relevant individuals, including engineers who had been involved in ethical dilemmas, officers and staff members of engineering societies, engineering managers, and lawyers, social scientists, and philosophers concerned with the subject.

They found that significant progress has been made in the legal arena give protection to ethical professionals. Furthermore, a number of employers of engineers have internal mechanisms in place to help resolve controversies. Nevertheless, the investigators concluded, it is essential that engineering societies establish mechanisms for supporting engineers who become involved in conflicts over ethical behavior.

Products

Unger, Stephen. Controlling Technology: Ethics and the Responsible Engineer. New York: Holt, Rinehart and Winston, 1982.

Unger, Stephen. "Engineers Should Be Public's Safeguard." IEEE Institute (August 1979): 11+.

Unger, Stephen. "Ensuring the Right of Professional Dissent: A Review of a Proposed New NRC Policy." IEEE Technology and Society 8, no. 1 (1980): 7-8.

Unger, Stephen. "How to Be Ethical and Survive." IEEE Spectrum 16, no. 12 (1979): 56-57.

Unger, Stephen. "Review of 'Divided Loyalties--Whistle-Blowing at BART.'" IEEE Institute 4, no. 12 (1980): 12.

"Whistle-Blowing: Case Studies of Organizational Scientists and Engineers"

Frederick A. Elliston
Michael Hindelang Criminal
Justice Research Center
1 Alton Road
Albany, NY 12203

Reference Codes: EWHI

Completion Date: February 28, 1983

Funding: $122,561 (Partial support provided by NEH)

Project Summary

This project sought to elucidate why scientists and engineers go public with information about wrongdoing in their organization, where such disclosures are likely to occur, and what can be done about them. Three aspects of the whistle-blowing situation were analyzed: (1) What moral arguments exist for and against decisions in different situations, (2) What characteristics of scientists and engineers correlate with decisions to whistle-blow, and (3) What characteristics have been associated with successful and unsuccessful strategies in whistle-blowing cases.

The investigators studied seven incidents of actual or potential whistle-blowing in both the public and private sectors. In each case, six to eight people, usually senior executives, professional staff, and involved outsiders were interviewed. Each interview was taped, transcribed, and analyzed, and the results written up in fictionalized form as case studies of seven strategies for dealing with professional dissent. To help formulate the case studies, the investigators devised and tested 31 hypotheses within three theoretical frameworks--individual, organizational, and environmental.

Products

Elliston, Frederick A. "Anonymity and Whistleblowing." Journal of Business Ethics 1 (Summer 1982): 167-177. Also presented at Geneseo Conference on Value Inquiry, Geneseo, New York, April 17, 1981.

Elliston, Frederick A. "Anonymous Whistleblowing." Business and Professional Ethics 1, no. 2 (Winter 1982): 39-59.

Elliston, Frederick A. "Blowing the Whistle: When and How." Talk given at a meeting of the Popular Culture Association, Cincinnati, Ohio, March 27, 1981.

Elliston, Frederick A. "Civil Disobedience and Whistleblowing: A Comparative Appraisal of Two Forms of Dissent." Journal of Business Ethics 1 (Spring 1982): 23-28.

Elliston, Frederick A., ed. Whistleblowing: Conflicting Loyalties in the Workplace. Notre Dame: University of Notre Dame Press, 1983.

Elliston, Frederick A. "Whistleblowing: A Moral Appraisal." Paper presented at the Western Divsion Meeting of the American Philosophical Association, Milwaukee, Wisconsin, April 28, 1981.

Elliston, Frederick A., James Bowman, and Paula Lockhart, compilers. Professional Dissent: An Annotated Bibliography. New York: Garland, 1983.

"Equity Issues in the Exposure of Workers and Publics to Technological Hazards"

Roger E. Kasperson
Clark University
Worcester, MA 01610

Reference Codes: HHAZ, PSCI, HENV, EINF, HOCC
Completion Date: May 31, 1983

Funding: $240,276 (Partial support provided by NEH)

Project Summary

Management of hazards which result from technological growth has posed difficult ethical and value problems. Among these, equity issues are widely recognized to be pervasive in occurrence, yet central to judgments over the safety of technologies. A long-standing differential exists in the protection afforded to workers and to members of the public from the same hazards of technology. This is true in all industrial nations.

The project had three specific objectives: (1) to define the extent of differential exposure of workers and publics, and to determine how such differential exposure varies across technologies, hazards, and societies; (2) to inquire into the bases of such differential exposure as they have developed historically and as they are defensible morally; and (3) to examine the policies and mechanisms available to society for responding to such inequities as they exist now and as they might exist.

Research revealed that there is a universal differential in societal protection for workers and the public embodied in law, administrative standards, and current practice. The baseline for the occupational standard is to permit worker exposure at levels at or above the level of observed harm without a significant margin of safety. This contrasts with the public standard, where permissible exposure levels 10 to 1000 times lower than the occupational standard characteristically prevail.

Four major moral justifications have been offered to support this double standard: differential protection maximizes benefits to society as a whole; workers are better able than members of the public to cope with hazardous exposures; workers are compensated for the risks they bear; and workers voluntarily consent to higher risk as a condition of employment. The project investigators found, however, that the conditions necessary to support these

justifications are not met: existing differentials do not maximize social welfare; differential sensitivity to hazards does not explain differential protection; some workers may receive a limited implicit risk premium in their wages, but most do not; and, finally, workers lack sufficient information of risk and freedom in job choice to meet voluntary consent requirements.

Products

Derr, Patrick, Robert Goble, Roger E. Kasperson, and Robert W. Kates. "Worker/Public Protection: The Double Standard." Environment 23 (September 1981): 6-15, 31-36.

Derr, Patrick, Robert Goble, Roger E. Kasperson, and Robert W. Kates. "Responding to the Double Standard of Worker/Public Protection." Environment 25 (July/August) 1983: 6-11, 35-36.

Graham, Julie, and Don Shakow. "Risk and Reward: Hazard Pay for Workers." Environment 23 (October 1981): 14-20, 44-45.

Graham, Julie, Don M. Shakow, and Christopher Cyr. "Risk Compensation--In Theory and in Practice." Environment 25 (January/February 1983): 14-20, 39-40.

Hattis, Dale R., Robert Goble, and Nicholas Ashford. "Airborne Lead: A Clearcut Case of Differential Protection." Environment 24 (January/February 1982): 14-20, 33-42.

Johnson, Kirsten. "Equity in Hazard Management: Publics, Workers, and Parathion." Environment 24 (November 1982): 28-38.

Kasperson, Roger E. "Worker Participation in Protection: The Swedish Alternative." Environment 25 (May 1983): 13-20, 40-43.

Kasperson, R. E., and J. X. Kasperson. "Determining the Acceptability of Risk: Ethical and Policy Issues." Paper presented at the Royal Society of Canada, Toronto, October 18-19, 1982.

Kasperson, Roger E., and John Lundblad. "Closing the Protection Gap: Setting Health Standards for Nuclear Power Workers." Environment 24 (December 1982): 14-20, 33-38.

Lavine, Mary P. "Industrial Screening Programs for Workers." Environment 24 (June 1982): 26-38.

Melville, Mary. "Risks on the Job: The Worker's Right to Know." Environment 23 (November 1981): 12-20, 42-45.

"The Placement of Responsibility for Accidents: A Case Study of the Three Mile Island Incident.

Jane C. Kronick
Bryn Mawr College
Bryn Mawr, PA 19010

Reference Codes: PSCI, PNRG, ENRG

Completion Date: December 31, 1981

Funding: $18,234 (Partial support provided by NEH)

Project Summary

The events following the malfunction of the cooling system at the Three Mile Island nuclear power plant in 1979 provided an important demonstration of many of the serious value questions accompanying modern technological development. This project studied the government response which occurred after the accident and placed the response within the wider context of accident responsibility and prevention. Investigators analyzed hearings, government reports, and decisions reached by the Public Utility Commission of Pennsylvania.

In their earlier studies on accident responsibility, the researchers had found that governments in the United States base their accident policies on the prevention of accidents, rather than on compensation for victims. The failure of prevention at Three Mile Island brought up serious questions of values unresolved in existing American policy, including the trade-off between safety and costs and the extent of government responsibility for compensating victims. The opportunity for confronting these value questions was lost, however, as attention shifted to the problem of paying the costs of the accident.

The failure of government to engage questions of values left the people living near the reactor with no response to the wide-ranging questions they had raised in public meetings held by the NRC: questions of consitutional rights, of property rights, of the proper role of government, and of moral rights. The project investigators concluded that while the accident at Three Mile Island challenged American policy intent on preventing accidents, the actual response to the incident has been to strengthen policies of accident prevention. The failure to engage the equity questions implicit in the failure of prevention has left prior policy essentially intact without the expansion necessary to deal fairly with those who suffer from the unprevented accident.

Products

Kronick, Jane C. "Public Interest Group Participation in Congressional Hearings on Nuclear Power Development." Journal of Voluntary Action Research 11, no. 1 (January-March 1982): 46-59.

Kronick, Jane C. "The Placement of Responsibility for Accidents: A Case Study of the Three Mile Island Incident." Final project report (March 1982). Available through Dr. Kronick or EVIST.

"Conference on the Three Mile Island Accident"

David L. Sills
The New York Academy of Science
2 East 63rd Street
New York, NY 10021

Reference Codes: HHAZ, ENRG

Completion Date: March 31, 1981

Funding: $15,000 (Equally divided between EVIST, SFC, & PUOS)
$19,824 (other sources)

Project Summary

The New York Academy of Sciences convened a conference on "The Three Mile Island Nuclear Accident: Lessons and Implications" for three days in April 1980, in New York City. In addition to the National Science Foundation, supporters of the conference included the Department of Energy, the Electric Power Research Institute, the Ford Foundation, and the Nuclear Regulatory Commission. The conference sought to provide an objective and balanced examination of the technical, social, and ethical implications of the accident at Three Mile Island in terms of the relationship of the institutions involved, the exchange of information among the public, the press, and the technical communities, and the long-term effects on public attitudes toward nuclear power. Several hundred participants heard reports from scholars, government officials, industry representatives, and members of the press on such topics as the technical background of the nuclear accident, public information and communication, institutional and public reactions, and the major lessons learned by various groups.

Products

Moss, Thomas H., and David L. Sills, eds. The Three Mile Island Nuclear Accident: Lessons and Implications. Annals of the New York Academy of Sciences 365 (April 24, 1981).

"Social Controls and the Medical Profession"

Judith P. Swazey
Medicine in the Public Interest
65 Franklin Street
Suite 304
Boston, MA 02110

Reference Codes: EMED, EBIO, EWHI, SSMD

Completion Date: February 28, 1983

Funding: $276,435 (Partial support provided by NEH)

Project Summary

The overall objectives of this project were to define and examine the range of social controls that informally and formally govern medical practice in the United States; to assess the ways the controls interact; and to determine how they affect physicians, their patients, and the practice of medicine in general.

The major work of the project was conducted by a small staff and an interdisciplinary faculty, who, over a two year period, developed 11 conferences which were attended by additional invited participants. Because of the broad array of social controls affecting medicine, and the need for articulation and examination of the issue of professional self-regulation, the project focused primarily on social and ethical issues relating to self-regulation rather than on external controls such as laws and regulations.

Within the compass of self-regulation, the project focused on the idea of professional competence: How is competence defined in various stages of medical training, types of practice, and practice settings? How is competence assessed? What means does the profession use to deal with the trainee or practitioner who is incompetent due to impairment or other reasons? Recognizing that these questions and the topic of social controls can transcend medicine, brief comparative analyses were also made in the areas of law, the judiciary, and the ministry, again concentrating on professional self-regulation vis-a-vis competence.

Products

Cloutier, C. B. "Confronting the Impairment Problem: Perspectives from the Professions." Paper presented at the American Society of Law and Medicine Conference on Impaired Health Care Professionals, Detroit, March 1982.

Cloutier, C. B. "Confronting the Impairment Problem: The Role of Hospitals as Other Formal Social Controls." Quality Review Bulletin (April 1983).

Cloutier, C. B. "Formal Controls on the Imparied Physician." Psychiatric Annals 12, no. 2 (February 1982).

Cloutier, C. B. "Investigating Fraud in Clinical Research: The Role of Hospitals, State Licensing Boards, and Professional Societies." In Whistleblowing in Biomedical Research, edited by J. P. Swazey and S. R. Scher. Washington, DC: U. S. Government Printing Office, 1982.

Fox, R. C., and J. P. Swazey. "Social Controls and the Medical Profession." Contempo '82 (Journal of the American Medical Association) (June 1982).

Scher, Stephen, and Judith Swazey, eds. Competence and Impairment in the Medical Profession. Forthcoming.

Scher, Stephen R. "Fraud, Self-Interest, and Ethics in Science." Paper presented at the Sixth Regional Conference on the History and Philosophy of Science, University of Colorado, April 1982.

Scher, S. R. "IRBs and the Falsification of Research Data." IRB (August/September 1981).

Scher, Stephen R. "The Social Control of Biotechnology: An Ethical Analysis." Paper presented to National Episcopal Church Task Force on Ethical Implications of Biotechnology, Spring 1982.

Swazey, J. P. "Fraudulent Research: Institutional and Professional Responses and Responsibilities." Paper presented at Public Responsibility in Medicine and Research Conference on IRBs, Boston, March 1981.

Swazey, J. P. "Professional Self-Regulation in Medicine: The Need for Interdisciplinary Perspectives." Paper presented at Workshop on Philosophy and Engineering Ethics, University of Florida, January 1982.

Swazey, J. P. "When the Whistle Is Blown: Professional Responses to Unethical Behavior in Medicine." Lecture given at Medical College of Ohio, Grand Rounds Speaker Series, March 1983.

Swazey, J. P., and S. R. Scher. "The Whistleblower as a Deviant Professional: Professional Norms and Responses to Fraud in Clinical Research." In Whistleblowing in Biomedical Research, edited by J. P. Swazey and S. R. Scher. Washington, DC: U. S. Government Printing Office.

Swazey, J. P., and S. R. Scher, eds. Whistleblowing in Biomedical Research --Policies and Procedures for Responding to Reports of Misconduct. Proceedings of a Workshop, September 21-22, 1981, sponsored by the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research, American Association for the Advancement of Science (Committee on Scientific Freedom and Responsibility), and Medicine in the Public Interest. Washington, D.C.: Superintendent of Documents, U. S. Government Printing Office, 1982.

"Interdisciplinary Analysis and Dialogue Program on Personal Privacy and Information Technology"

George B. Trubow
American Bar Association
Division of Public Service Activities
1800 M Street, NW.
Washington, DC 20036

Reference Codes: ECMP, PSTL

Completion Date: July 31, 1983

Funding: $52,062 (Partial support provided by NEH)

Project Summary

Improvements in data storage, retrieval, and communications technology have increased radically the power of organizations to access and use sensitive personal information. This project involved a dialogue program including lawyers, scientists, computer specialists, and moral philosophers to explore the effect and options of rapidly expanding information technology on traditional values of individual privacy and autonomy. Preliminary tasks included an advance survey of current privacy protection laws; an assessment of current legal protection of personal privacy, autonomy, and confidentiality; and the development of research papers emphasizing basic ethical issues and social values, new scientific developments in information technology, and mediation of technology/privacy clashes.

The project culminated in an interdisciplinary three-day symposium in October 1981 co-sponsored by the American Bar Association's Section of Individual Rights and Responsibilities and the American Federation of Information Processing Societies. The 24 participants explored the concept of information privacy, and suggested how it could be defined more clearly and how the interest of society and the individual could be protected better. They agreed on two significant points: (1) Though individuals have varying expectations of information privacy, society as a whole lacks a clear and settled use of the concept, and (2) The individual's informational privacy is relatively unprotected and will remain so unless an effective constituency is developed. In light of these findings, the participants agreed on one urgent recommendation: some ongoing mechanisms or institutions, public, private, or both, must be established to examine and develop informational privacy policy that balances governmental, societal and privacy interests.

Products

Invited Papers on Privacy: Law, Ethics, and Technology. Presented at the National Symposium on Personal Privacy and Information Technology. Washington: American Bar Association, 1982.

Report on the National Symposium on Personal Privacy and Information Technology. Washington: American Bar Association, 1982.

LIST OF REFERENCE CODES

HEALTH AND SAFETY

HENV Environmental Health and Safety
HHAZ Hazards
HOCC Occupational
HPUB Public Health
HOTH Health & Safety, Other

PHILOSOPHY AND ETHICS

EAGR Agriculture
EBIO Bioethics
ECMP Computer Science
ECON Economics
ECOR Corporate
EDNA DNA Research
EENG Engineering
EENV Environmental
EHUM Human Subjects Research
EINF Informed Consent
ELAW Law
EMED Medical
EMOD Modelling (especially computer)
ENRG Energy
ERES Research
ESEE Science and Engineering Education
ESNT Science and Technology
ESOC Social Sciences
EWHI Whistle-Blowing
EOTH Philosophy and Ethics, Other

PUBLIC POLICY

PAGR Agriculture
PDEV Developing Countries (especially Science & Technology)
PENV Environmental Law and Policy
PHST History of Science and Technology
PNAT Natural Resource Policy
PNRG Energy Policy
PSCI Science and Technology Policy
PSTL Science, Technology, and Law
POTH Policy Studies, Other

SCIENCE TECHNOLOGY, AND SOCIETY

SAPT Appropriate Technology
SENV Environmental Management
SHND Handicapped
SPOL Pollution
SPOP Population Control
SPUB Public Interest Science and Technology
SREH Rehabilitation
SSMD Sociology of Medicine and Science
STAS Technology Assessment
STOX Toxic Substances
STRN Transportation
SOTH Science, Technology & Society, Other
SGEN Science, Technology & Society, General

OTHER

OBCA Benefit/Cost Analysis
OBRA Benefit/Risk Analysis
OPUB Public Administration
ORUS Rural or Urban Sociology

REFERENCE CODE INDEX

PHILOSOPHY AND ETHICS

EAGR--Agricultural Ethics

Friedland, William, 1978. "Ethics and Values in Agricultural Research: A Case Study"

EBIO--Bioethics

Bunker, John P. 1978. "Ethical Issues in Biomedical Decision Making: Four Case Studies"

Chapple, Paul, 1976. "Symposium on Ethical Issues Related to the Acquisition and Utilization of Human Tissue for In Vitro Research"

Dutton, Diana, 1978. "Ethical Issues in Biomedical Decision Making: Four Case Studies"

Gaylin, Willard, 1977. "The Dynamics of Scientific Research: Three Case Studies of Scientific Research on Aggression"

Kolodny, Robert C. 1976. "Conference on Ethical Issues in Research on Reproductive Biology"

Lakoff, Sanford, 1979. "U. S. Pugwash Conference on Science and Ethical Responsibility"

Mendelsohn, Everett, 1978. "International Conference on Ethical and Value Issues in the Social Assessment of Science"

Steneck, Nicholas, 1978. "Values Issues in Research on the Biological Effects of Microwave Radiation: A Case Study"

Swazey, Judith P. 1980. "Social Controls and the Medical Profession"

Weiner, Charles, 1976. "The Social Impact of the Recombinant DNA Controversy: Documentation of the Responses of the Scientific Community, Government and the Public"

ECMP--Computer Science Ethics

Parker, Donn B. 1976. "Ethical Conflicts in Computer Science and Technology"

Trubow, George B. 1980. "Interdisciplinary Analysis and Dialogue Program on Personal Privacy and Information Technology"

ECON--Economic Ethics

Canterbery, E. Ray, 1977. "A Study of the Impact of Values on Economic Research and Policy Analysis"

ECOR--Corporate Ethics

Anderson, Robert M. 1976. "An In-Depth Case Study of Ethical Problems of Professional Engineers: The BART (Bay Area Rapid Transit) Engineers"

EDNA--DNA Research Ethics

Bunker, John P. 1978. "Ethical Issues in Biomedical Decision Making: Four Case Studies"

Dutton, Diana, 1978. "Ethical Issues in Biomedical Decision Making: Four Case Studies"

Krimsky, Sheldon, 1978. "Value Issues in the Controversy Over Recombinant DNA Research"

Weiner, Charles, 1976. "The Social Impact of the Recombinant DNA Controversy: Documentation of the Responses of the Scientific Community, Government and the Public"

Williams, Mary B. 1976. "Moral Dilemmas in the Application of Biological Research"

EENG--Engineering Ethics

Anderson, Robert M. 1976. "An In-Depth Case Study of Ethical Problems of Professional Engineers: The BART (Bay Area Rapid Transit) Engineers"

Babcock, Daniel, 1978. "Values and the Public Works Professional"

Chalk, Rosemary, 1979. "Workshops on Ethics Activities in American Scientific and Engineering Societies"

Ladenson, Robert F. 1978. "Bibliography of Engineering Ethics"

Manheim, Marvin, 1979. "Ethical and Value Issues in Systems Analysis"

Smith, Carol Ann, 1978. "Values and the Public Works Professional"

Swanson, Bert E. 1977. "Ethical Problems Confronting Scientists and Engineers as Community Developers"

Unger, Stephen H. 1979. "Ethical Responsibilities of Professional Engineering Societies"

Weil, Vivian, 1978. "Workshops on Ethical Issues in Engineering"

EENV--Environmental Ethics

Ben-David, Shaul, 1977. "A Study of Ethical Foundations of Benefit-Cost Analysis Techniques"

Benson, Carol, 1976. "Energy, Environment and Ethics Seminar"

Blanpied, William, 1976. "Research Design Agenda on American Values and Models of Human Habitation"

Buvinic, Mayra, 1976. "Research Design Agenda on American Values and Models of Human Habitation"

Fritsch, Albert J. 1978. "Workshops on Ethical Problems in the Production, Use and Regulation of Toxic Substances"

Gold, Raymond L. 1979. "Ethical and Value Issues in Natural Resource Development"

Kronick, Jane C. 1978. 'Value Issues in the Control of Technology Related Damage: A Comparative Study of Emerging Policies in the United States and New Zealand"

Matzke, Gordon, 1976. "An Examination of the Ethical Problems of Scientists Participating in the Preparation of Environmental Impact Statements"

Mitchell, Robert C. 1979. "Ethical and Value Dimensions of the Nuclear Debate"

Williams, Mary B. 1976. "Moral Dilemmas in the Application of Biological Research"

EHUM--Human Subjects Research Ethics

Beauchamp, Tom L. 1978. "Ethical Problems in Social Science Research Involving Human Subjects"

Gaylin, Willard, 1977. "The Dynamics of Scientific Research: Three Case Studies of Scientific Research on Aggression"

Loughlin, Julia, 1977. "Equitable Compensation in Personal Injury: A Comparative Study of Values in Biomedical Research and Industrial Practice"

Sieber, Joan E. 1978. "Ethical Problems in Social Science Research Involving Human Subjects"

EINF--Informed Consent Ethics

Bunker, John P. 1978. "Ethical Issues in Biomedical Decision Making: Four Case Studies"

Dutton, Diana, 1978. "Ethical Issues in Biomedical Decision Making: Four Case Studies"

Guttmacher, Sally, 1979. "Drugs as Medical Technology: Ethical Issues in Treatment of Borderline Hypertension"

Holmes, Helen, 1979. "Ethical Issues in Research on Human Reproduction: A National Workshop"

Kasperson, Roger E. 1977. "A Study of Equity Issues in Radioactive Waste Management"

Kasperson, Roger E. 1980. "Equity Issues in the Exposure of Workers and Publics to Technological Hazards"

Kolodny, Robert C. 1976. "Conference on Ethical Issues in Research on Reproductive Biology"

Loughlin, Julia, 1977. "Equitable Compensation in Personal Injury: A Comparative Study of Values in Biomedical Research and Industrial Practices"

ELAW--Law Ethics

Hunt, Raymond A. 1978. "Case Studies of Value Dilemmas in Law Enforcement"

EMED--Medical Ethics

Bunker, John P. 1978. "Ethical Issues in Biomedical Decision Making: Four Case Studies"

Cassell, Eric J. 1978. "Social Values and Clinical Medicine: An Interdisciplinary Conference"

Dubler, Nancy Neveloff, 1978. "Legal and Ethical Issues in Delivery of Health Care Within Detention and Correctional Insitutions"

Dutton, Diana, 1978. "Ethical Issues in Biomedical Decision Making: Four Case Studies"

Freidson, Eliot, 1978. "Cultural and Ethical Components of Peer Review in Medicine: The Process and Consequences of Medicalizing Professional Deviance"

Gaylin, Willard, 1976. "Studies of the Ethical Implications of Procedures Used in the Care, Education, and Treatment of the Mentally Retarded"

Guttmacher, Sally, 1979. "Drugs as Medical Technology: Ethical Issues in Treatment of Borderline Hypertension"

Holmes, Helen, 1979. "Ethical Issues in Research in Human Reproduction: A National Workshop"

Kolodny, Robert C. 1976. "Conference on Ethical Issues in Research on Reproductive Biology"

Morrow, Carol Klaperman, 1978. "Cultural and Ethical Components of Peer Review in Medicine: The Process and Consequences of Medicalizing Professional Deviance"

Swazey, Judith P. 1980. "Social Controls and the Medical Profession"

EMOD--Modelling Ethics (especially computer)

Laszlo, Ervin, 1976. "Value Issues in Long Term Global Development Projections"

ENRG--Energy Ethics

Kasperson, Roger E. 1977. "A Study of Equity Issues in Radioactive Waste Management"

Kronick, Jane C. 1980. "The Placement of Responsibility for Accidents: A Case Study of the Three Mile Island Incident"

MacLean, Douglas, 1979. "Intergenerational Ethics and National Energy Policy"

Mitchell, Robert C. 1979. "Ethical and Value Dimensions of the Nuclear Debate"

Sayre, Kenneth M. 1977. "Values and Electric Power Industry Regulation"

Sills, David L. 1980. "Conference on the Three-Mile Island Accident"

ERES--Research Ethics

Beauchamp, Tom L. 1978. "Ethical Problems in Social Science Research Involving Human Subjects"

Chapple, Paul, 1976. "Symposium on Ethical Issues Related to the Acquisition and Utilization of Human Issues for In Vitro Research"

Crowe, Lawson, 1976. "Ethical and Human Values Assessment Procedure: A Pilot Project"

Gaylin, Willard, 1977. "The Dynamics of Scientific Research: Three Case Studies of Scientific Research on Agression"

Holton, Gerald, 1979. "Ethical Issues in the Assessment of Science: Development and Testing of Indicators of Quality"

Krasner, Leonard, 1979. "The Influence of Values of Behavioral Scientists on Research and on American Society 1946-1976"

Krimsky, Sheldon, 1978. "Value Issues in the Controversy Over Recombinant DNA Research"

Matzke, Gordon, 1976. "An Examination of the Ethical Problems of Scientists Participating in the Preparation of Environmental Impact Statements"

Sieber, Joan E. 1978. "Ethical Problems in Social Science Research Involving Human Subjects"

Wax, Murray, 1978. "Ethical Problems of Fieldwork"

Wertz, Dorothy, 1976. "Effects of Cultural Values Upon Social Science Research About Women as Workers, 1870-1970"

ESEE--Science and Engineering Education

Factor, R. Lance, 1979. "Value Presuppositions in Scientific Textbooks: An Annotated Bibliography"

Livermore, Arthur, 1976. Resource Directory to Courses and Programs in the Field of Ethics and Values in Science and Technology"

Weil, Vivian, 1978. "Workshops on Ethical Issues in Engineering"

ESNT--Science and Technology Ethics

Ben-David, Shaul, 1977. "A Study of the Ethical Foundations of Benefit-Cost Analysis Technologies"

Cassell, Eric J. 1978. "Social Values and Clinical Medicine: An Interdisciplinary Conference"

Chalk, Rosemary, 1979. "Workshops on Ethics Activities in American Scientific and Engineering Societies"

Crowe, Lawson, 1976. "Ethical and Human Values Assessment Procedure: A Pilot Project"

Durbin, Paul T. 1976. "A Guide to Historical, Philosophical, Science Policy and Sociological Studies of Science, Technology, and Medicine: Their Relevance to Ethical and Value Implications"

Factor, R. Lance, 1979. "Value Presuppositions in Scientific Textbooks: An Annotated Bibliography"

Gorovitz, Samuel, 1976. "Institute on Philosophical Ethics for Science and Engineering Faculty"

Gorovitz, Samuel, 1977. "Institute on Philosophical Ethics for Science and Engineering Faculty"

Holton, Gerald, 1979. "Ethical Issues in the Assessment of Science: Development and Testing of Indicators of Quality"

Lakoff, Sanford, 1979. "U. S. Pugwash Conference on Science and Ethical Responsibility"

Livermore, Arthur, 1976. "Resource Directory to Courses and Programs in the Field of Ethics and Values in Science and Technology"

Shelanski, Vivien B. 1976. "Program on Science, Technology and Human Values"

ESOC--Social Sciences Ethics

Beauchamp, Tom L. 1978. "Ethical Problems in Social Science Research Involving Human Subjects"

Canterbery, E. Ray, 1977. "A Study of the Impact of Values on Economic Research and Policy Analysis"

Krasner, Leonard, 1979. "The Influence of Values of Behavioral Scientists on Research and on American Society 1946-1976"

Monahan, John, 1976. "Task Force on the Role of Psychology in the Criminal Justice System"

Sieber, Joan E. 1978. "Ethical Problems in Social Science Research Involving Human Subjects"

Wax, Murray, 1978. "Ethical Problems in Fieldwork"

Wertz, Dorothy, 1976. "Effects of Cultural Values Upon Social Science Research About Women as Workers"

EWHI--Whistle-Blowing Ethics

Anderson, Robert M. 1976. "An In-Depth Study of Ethical Problems of Professional Engineers: The BART (Bay Area Rapid Transit) Engineers"

Chalk, Rosemary, 1979. "Workshops on Ethics Activities in American Scientific and Engineering Societies"

Elliston, Frederick A. 1980. "The Ethics and Pragmatics of Whistle-Blowing: Ten Case Studies of Organizational Scientists and Engineers"

Swazey, Judith P. 1980. "Social Controls and the Medical Profession"

Unger, Stephen H. 1979. "Ethical Responsibilities of Professional Engineering Societies"

Weil, Vivian, 1978. "Workshops on Ethical Issues in Engineering"

EOTH--Philosophy and Ethics, Other

Gaylin, Willard, 1976. "Studies of the Ethical Implications of Procedures Used in the Care, Education, and Treatment of the Mentally Retarded"

MacLean, Douglas, 1979. "Intergenerational Ethics and National Energy Policy"

HEALTH AND SAFETY

HENV--Environmental Health and Safety

Anderson, Robert M. 1976. "An In-Depth Case Study of Ethical Problems of Professional Engineers: The BART (Bay Area Rapid Transit) Engineers"

Kasperson, Roger E. 1977. "A Study of Equity Issues in Radioactive Waste Management"

Kasperson, Roger E. 1980. "Equity Issues in the Exposure of Workers and Publics to Technological Hazards"

Kronick, Jane C. 1976. "Community Responsibility: The New Zealand Accident Compensation Act as a Value Response to Technological Development"

Mitchell, Robert C. 1979. "Ethical and Values Dimensions of the Nuclear Debate"

HHAZ--Hazards/Health and Safety

Fritsch, Albert J. 1978. "Workshops on Ethical Problems in the Production, Use and Regulation of Toxic Substances"

Kasperson, Roger E. 1980. "Equity Issues in the Exposure of Workers and Publics to Technological Hazards"

Kronick, Jane C. 1978. "Value Issues in the Control of Technology Related Damage: A Comparative Study of Emerging Policies in the United States and New Zealand"

Loughlin, Julia, 1977. "Equitable Compensation in Personal Injury: A Comparative Study of Values in Biomedical Research and Industrial Practices"

Mendelsohn, Everett, 1978. "International Conference on Ethical and Value Issues in the Social Assessment of Science"

Sills, David L. 1980. "Conference on the Three-Mile Island Accident"

Steneck, Nicholas, 1978. "Values Issues in Research on the Biological Effects of Microwave Radiation: A Case Study"

HOCC--Occupational Health and Safety

Kasperson, Roger E. 1977. "A Study of Equity Issues in Radioactive Waste Management"

Kasperson, Roger E. 1980. "Equity Issues in the Exposure of Workers and Publics to Technological Hazards"

HPUB--Public Health and Safety

Tarr, Joel, 1978. "Values and Value Changes in the Formulation of the Pittsburgh Air Pollution Control Statutes"

HOTH--Health and Safety--Other

Dubler, Nancy Neveloff, 1978. "Legal and Ethical Issues in the Delivery of Health Care Within Detention and Correctional Institutions"

PUBLIC POLICY

PAGR--Agriculture Public Policy

Friedland, William, 1978. "Ethics and Values in Agricultural Research: A Case Study"

PDEV--Developing Countries (especially Science and Technology)

Brass, Paul R. 1977. "Value Issues in Technological Innovation and Social Choice: A Case Study of U. S. Rice Production Technologies in South Asia"

Lakoff, Sanford, 1979. "U. S. Pugwash Conference on Science and Ethical Responsibility"

Laszlo, Ervin, 1976. "Value Issues in Long Term Global Development Projections"

Long, Franklin A. 1976. "International Symposium on Critical Value Issues in Choosing Appropriate Technologies in Developed and Developing Countries"

PENV--Environmental Law and Policy

Baram, Michael, 1977. "Ethical Issues in Regulation and Risk Management: A Study of Federal Science-Related Agencies"

Benson, Carol, 1976. "Energy, Environment and Ethics Seminar"

Kronick, Jane C. 1978. "Value Issues in the Control of Technology Related Damage: A Comparative Study of Emerging Policies in the United States and New Zealand"

Lambright, W. Henry, 1977. "Study of Citizen Participation Mechanisms in State Weather Modification Policy"

Matzke, Gordon, 1976. "An Examination of the Ethical Problems of Scientists Participating in the Preparation of Environmental Impact Statements"

Tarr, Joel, 1978. "Values and Value Changes in the Formulation of the Pittsburgh Air Pollution Control Statutes"

PHST--History of Science and Technology

Durbin, Paul T. 1976. "A Guide to Historical, Philosophical, Science Policy and Sociological Studies of Science, Technology, and Medicine: Their Relevance to Ethical and Values Implications of Science and Technology"

Krimsky, Sheldon, 1978. "Value Issues in the Controversy Over Recombinant DNA Research"

Tarr, Joel, 1978. "Values and Value Changes in the Formulation of the Pittsburgh Air Pollution Control Statutes"

Wertz, Dorothy, 1976. "Effects of Cultural Values Upon Social Science Research About Women Workers, 1870-1970"

PNAT--Natural Resource Policy

Ben-David, Shaul, 1977. "A Study of the Ethical Foundations of Benefit-Cost Analysis Techniques"

PNRG--Energy Policy

Benson, Carol, 1976. "Energy, Environment and Ethics Seminar"

Chen, Kan, 1977. "A Study of Value-Oriented Social Decision Analysis"

Kasperson, Roger E. 1977. "A Study of Equity Issues in Radioactive Waste Management"

Kronick, Jane C. 1980. "The Placement of Responsibility for Accidents: A Case Study of the Three Mile Island Incident"

Sayre, Kenneth M. 1977. "Values and Electric Power Industry Regulation"

Tarr, Joel, 1978. "Values and Value Changes in the Formulation of the Pittsburgh Air Pollution Control Statutes"

PSCI--Science and Technology Policy

Durbin, Paul T. 1976. "A Guide to Historical, Philosophical, Science Policy and Sociological Studies of Science, Technology, and Medicine: Their Relevance to Ethical and Values Implications of Science and Technology"

Dutton, Diana, and John P. Bunker. 1978. "Ethical Issues in Biomedical Decision Making: Four Case Studies"

Kasperson, Roger E. 1980. "Equity Issues in the Exposure of Workers and Publics to Technological Hazards"

Krimsky, Sheldon, 1978. "Value Issues in the Controversy Over Recombinant DNA Research"

Kronick, Jane C. 1976. "Community Responsibility: The New Zealand Accident Compensation Act as a Value Response to Technological Development"

Kronick, Jane C. 1978. "Value Issues in the Control of Technology Related Damage: A Comparative Study of Emerging Policies in the United States and New Zealand"

Kronick, Jane C. 1980. "The Placement of Responsibility for Accidents: A Case Study of the Three Mile Island Incident"

Lakoff, Sanford, 1979. "U. S. Pugwash Conference on Science and Ethical Responsibility"

Lambright, W. Henry. 1977. "Study of Citizen Participation Mechanisms in State Weather Modification Policy"

Mendelsohn, Everett, 1978. "International Conference on Ethical and Value Issues in the Social Assessment of Science"

Mitchell, Robert C. 1979. "Ethical and Value Dimensions of the Nuclear Debate"

Nelkin, Dorothy, 1976. "A Critical Analysis of Value Issues Associated with the Role of Scientific Experts in Decision-Making Processes"

Weiner, Charles, 1976. "The Social Impact of the Recombinant DNA Controversy: Documentation of the Responses of the Scientific Community, Government and the Public"

PSTL--Science, Technology and Law

Baram, Michael, 1977. "Ethical Issues in Regulation and Risk Management: A Study of Federal Science-Related Agencies"

Hunt, Raymond A. 1978. "Case Studies of Value Dilemmas in Law Enforcement"

Kronick, Jane C. 1978. "Value Issues in the Control of Technology Related Damage: A Comparative Study of Emerging Policies in the United States and New Zealand"

Kronick, Jane C. 1976. "Community Responsibility and New Zealand Accident Compensation Act as a Value Response to Technological Development"

Trubow, George B. 1980. "Interdisciplinary Analysis and Dialogue Program on Personal Privacy and Information Technology"

POTH--Policy Studies, Other

Wertz, Dorothy, 1976. "Effects of Cultural Values Upon Social Science Research About Women Workers, 1870-1970"

SCIENCE, TECHNOLOGY, AND SOCIETY

SAPT--Appropriate Technology

Long, Franklin A. 1976. "International Symposium on Critical Value Issues in Choosing Appropriate Technologies in Developed and Developing Countries"

SENV--Environmental Management

Caldwell, Lynton K. 1976. "Case Studies of the Impact of Natural Resources Technologies on the Values of Two Contrasting Socio-Cultural Communities"

Gold, Raymond L. 1979. "Ethical and Value Issues in Natural Resource Development"

SHND--Handicapped

Gaylin, Willard, 1976. "Studies of the Ethical Implications of Procedures Used in the Care, Education, and Treatment of Mentally Retarded"

SPOL--Pollution

Tarr, Joel, 1978. "Values and Value Changes in the Formulation of the Pittsburgh Air Pollution Control Statutes"

SPOP--Population Control

Holmes, Helen, 1979. "Ethical Issues in Research on Human Reproduction: A National Workshop"

Laszlo, Ervin, 1976. "Value Issues in Long Term Global Development Projections"

SPUB--Public Interest, Science and Technology

Babcock, Daniel, 1978. "Values and the Public Works Professional"

Chen, Kan, 1977. "A Study of Value-Oriented Social Decision Analysis"

Lambright, W. Henry, 1977. "Study of Citizen Participation Mechanisms in State Weather Modification Policy"

Nelkin, Dorothy, 1976. "A Critical Analysis of Value Issues Associated with the Role of Scientific Experts in Decision-Making Processes"

Smith, Carol Ann, 1978. "Values and the Public Works Professional"

SREH--Rehabilitation

Dubler, Nancy Neveloff, 1978. "Legal and Ethical Issues in the Delivery of Health Care Within Detention and Correctional Institutions"

Monahan, John, 1976. "Task Force on the Role of Psychology in the Criminal Justice System"

SSMD--Sociology of Medicine and Science

Cassell, Eric J. 1978. "Social Values and Clinical Medicine: An Interdisciplinary Conference"

Dubler, Nancy Neveloff, 1978. "Legal and Ethical Issues in the Delivery of Health Care Within Detention and Correctional Institutions"

Durbin, Paul T. 1976. "A Guide to Historical, Philosophical, Science Policy and Sociological Studies of Science, Technology, and Medicine: Their Relevance to Ethical and Values Implications of Science and Technology"

Friedson, Eliot, 1978. "Cultural and Ethical Components of Peer Review in Medicine: The Process and Consequences of Medicalizing Profes_ional Deviance"

Guttmacher, Sally, 1979. "Drugs as Medical Technology: Ethical Issues in Treatment of Borderline Hypertension"

Kolodny, Robert C. 1976. "Conference on Ethical Issues in Research on Reproductive Biology"

Mendelsohn, Everett, 1978. "International Conference on Ethical and Value Issues in the Social Assessment of Science"

Morrow, Carol Klaperman, 1978. "Cultural and Ethical Components of Peer Review in Medicine: The Process and Consequences of Medicalizing Professional Deviance"

Swazey, Judith P. 1980. "Social Controls and the Medical Profession"

STAS--Technology Assessment

Brass, Paul R. 1977. "Value Issues in Technological Innovation and Social Choice: A Case Study of U. S. Rice Production Technologies in South Asia"

Bunker, John P. 1978. "Ethical Issues in Biomedical Decision Making: Four Case Studies"

Caldwell, Lynton K. 1976. "Case Studies of the Impact of Natural Resources Technologies in the Values of Two Contrasting Socio-Cultural Communities"

Dutton, Diana, 1978. "Ethical Issues in Biomedical Decision Making: Four Case Studies"

Fritsch, Albert J. 1976. "Toxic Substances and Trade Secrecy"

Fritsch, Albert J. 1978. "Workshops on Ethical Problems in the Production, Use and Regulation of Toxic Substances"

Hunt, Raymond A. 1978. "Case Studies of Value Dilemmas in Law Enforcement"

Kronick, Jane C. 1976. "Community Responsibility: The New Zealand Accident Compensation Act as a Value Response to Technological Development"

STOX--Toxic Substances

Fritsch, Albert J. 1976. "Toxic Substance and Trade Secrecy"

Fritsch, Albert J. 1978. "Workshops on Ethical Problems in the Production, Use and Regulation of Toxic Substances"

Loughlin, Julia, 1977. "Equitable Compensation in Personal Injury: A Comparative Study of Values in Biomedical Research and Industrial Practice"

STRN--Transportation

Anderson, Robert M. 1976. "An In-Depth Case Study of Ethical Problems of Professional Engineers: The BART (Bay Area Rapid Transit) Engineers"

Manheim, Marvin, 1979. "Ethical and Value Issues in Systems Analysis"

SOTH--Science, Technology and Society, Other

Brass, Paul R. 1977. "Value Issues in Technological Innovation and Social Choice: A Case Study of U. S. Rice Production Technologies in South Asia"

SGEN--Science, Technology and Society, General

Chen, Kan, 1977. "A Study of Value-Oriented Social Decision Analysis"

OTHER

OBRA AND OBCA--Benefit/Risk and Benefit/Cost Analysis

Baram, Michael, 1977. "Ethical Issues in Regulation and Risk Management: A Study of Federal Science-Related Agencies"

Ben-David, Shaul, 1977. "A Study of the Ethical Foundations of Benefit-Cost Analysis Technologies"

Fritsch, Albert J. 1978. "Workshops on Ethical Problems in the Production, Use and Regulation of Toxic Substances"

Steneck, Nicholas, 1978. "Values Issues in Research on the Biological Effects of Microwave Radiation: A Case Study"

OPUB--Public Administration

Babcock, Daniel, 1978. "Values and the Public Works Professional"

Smith, Carol Ann, 1978. "Values and the Public Works Professional"

Swanson, Bert E. 1977. "Ethical Problems Confronting Scientists and Engineers as Community Developers"

ORUS--Rural or Urban Sociology

Blanpied, William, 1976. "Research Design Agenda on American Values and Models of Human Habitation"

Buvinic, Mayra, 1976. "Research Design Agenda on American Values and Models of Human Habitation"

Gold, Raymond L. 1978. "Ethical and Value Issues in Natural Resource Development"

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Anderson, Robert, 1976

Babcock, Daniel, 1978

Baram, Michael, 1977

Beauchamp, Tom L., 1978

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